WEST VIRGINIA UNIVERSITY

The 1959-60 Catalog

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WEST VIRGINIA UNIVERSITY

1959-60 CATALOG

WEST VIRGINIA UNIVERSITY BULLETIN

ANNOUNCEMENTS 1959-60
STAFF AND DATA 1958-59

ON THE COVER

Artist's drawing of the new home of the College of Agriculture. Now under construction on the Evansdale campus, the building is scheduled for completion in 1961.

WEST VIRGINIA UNIVERSITY

The 1959-60 Catalog

ANNOUNCEMENTS OF THE 1959-60 SESSION

STAFF AND DATA OF THE 1958-59 SESSION

WEST VIRGINIA UNIVERSITY BULLETIN

CORRESPONDENCE

Correspondence should be addressed as follows:

ADMISSIONS AND RECORDS
Registrar

ALUMNI MATTERS
Alumni Secretary

CATALOG, ANNOUNCEMENTS
Registrar

EMPLOYMENT OF SENIORS AND ALUMNI
Placement Bureau

HOUSING
On campus: Director of Residence Halls

INFORMATION
Bureau of Information

MATTERS OF GENERAL UNIVERSITY INTEREST
The President

VETERANS AFFAIRS
Veterans Coordinator

WEST VIRGINIA UNIVERSITY, MORGANTOWN, W. VA.

SERIES 59, NO. 12-1 — WEST VIRGINIA UNIVERSITY BULLETIN — JUNE, 1959

The *West Virginia University Bulletin* is issued monthly throughout the year. Publications included are the *Announcements* of the College of Arts and Sciences, the College of Agriculture, Forestry, and Home Economics, the College of Commerce, the School of Dentistry, the College of Education, the College of Engineering and Mechanic Arts, the Division of Forestry, the School of Journalism, the College of Law, the School of Medicine, the School of Mines, the School of Music, the School of Pharmacy, the School of Physical Education and Athletics, and the Graduate School; the Summer Session, and the Evening Education Program; the *General Catalog;* bulletins of the College of Engineering and the School of Mines; other scholarly and scientific publications; and the *Proceedings* of the West Virginia Academy of Science.

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The Board of Governors

	TERM EXPIRES
E. G. Otey, *President*, Bluefield	1959
Thomas L. Harris, *Vice-President*, Parkersburg	1960
K. Douglas Bowers, *Secretary*, Beckley	1962
A. C. Spurr, Wheeling	1961
Frank J. Zsoldos, Pineville	1963
William G. Thompson, Montgomery	1964
Raymond E. Salvati, Huntington	1965
Forrest H. Kirkpatrick, Wheeling	1966
James H. Swadley, Jr., Keyser	1967
Elvis Jacob Stahr, Jr., *Chief Executive Officer*, Morgantown	

The Board of Governors has charge of the educational, administrative, financial, and business affairs of the University and Potomac State College of West Virginia University.

Administrative Officers

General

Elvis Jacob Stahr, Jr., A.B., B.A. in Jurisprudence, M.A. (Oxon.), B.C.L., LL.D., *President of the University* (1959).
Betty Boyd, A.B., *Dean of Women* (1955), 1948.
Joseph Clay Gluck, B.A., B.D., *Director of Student Affairs* (1949), 1943.
Louise Keener, B.A., *Comptroller and Director of Business Affairs* (1949), 1943.
J. Everett Long, M.A., *Registrar of the University and Chairman of the Committee on Admissions* (1945), 1929.
Robert Ferguson Munn, M.A., *Director of University Libraries* (1957), 1952.

Colleges, Schools, and Divisions

Warren Kendall Agee, Ph.D., *Dean of the School of Journalism* (1958).
Chester A. Arents, M.E., *Dean of the College of Engineering and Mechanic Arts* (1955).
Raymond W. Coleman, Ph.D., *Dean of the College of Commerce* (1952), 1948.
Armand Rene Collett, Ph.D., *Dean of the College of Arts and Sciences* (1951), 1924.
Clyde Lemuel Colson, S.J.D., *Dean of the College of Law* (1956), 1935. (*Acting President of the University*, August 26, 1958 to January 31, 1959.)
Ray Oscar Duncan, Ed.D., *Dean of the School of Physical Education and Athletics*, (1952).
Richard E. Duncan, Ph.D., *Dean of the School of Music* (1958).
Robert Barclay Dustman, Ph.D., *Dean of the Graduate School* (1949), 1924.
Eston Kermit Feaster, Ed.D., *Dean of the College of Education* (1953), 1949.
Joseph Lester Hayman, Ph.C., M.S., *Dean of the School of Pharmacy* (1936), 1919.
Roy M. Kottman, Ph.D., *Dean of the College of Agriculture, Forestry, and Home Economics* (1958).
John Oliver Knapp, B.S.Agr., *Director of the Agricultural Extension Service and Associate Dean of the College of Agriculture, Forestry, and Home Economics* (1938), 1917.
Walter Allos Koehler, Ph.D., *Director of the Engineering Experiment Station* (1952), 1924.
Ernie Bevan McCue, A.B., A.M., *Director of University Extension* (1952), 1947.
James S. Moncrief, Jr., Colonel, United States Army, B.S., *Head of the Military Division* (1956).
Kenneth V. Randolph, D.D.S., *Dean of the School of Dentistry* (1958), 1957.
Garold Ralph Spindler, E.M., *Dean of the School of Mines* (1948), 1934.
A. H. VanLandingham, Ph.D., *Director of the Agricultural Experiment Station and Associate Dean of the College of Agriculture, Forestry, and Home Economics* (1959), 1929.
Edward Jerald VanLiere, M.D., Ph.D., *Dean of the School of Medicine* (1937), 1921.

Heads of Other Administrative Offices

Boris Constant Belpulsi, M.S., *Director of Student Activities Building* (1953).
Robert Nathan Brown, A.B., *Director of Intercollegiate Athletics* (1954), 1950.
Agnes B. Hovee, M.A., *Director, Residence Halls* (1956), 1950.
David Wood Jacobs, A.B., *Director of the Bureau of Information and Alumni Secretary* (1938).
Margaret Cornelia Ladwig, Ph.D., *Placement Adviser* (1949).
John Joseph Lawless, Ph.D., M.D., *Director of the University Health Service* (1944), 1935.
John Luchok, B.S.J., *University Editor* (1953), 1950.
Delmas Ferguson Miller, Ph.D., *Principal, University High School* (1950), 1949.
Edwin Orr, B.S.M.E., *Superintendent, Buildings and Grounds* (1954), 1949.
Ruth Eleanor Robinson, A.M., *Manager, University Book Store* (1944), 1939.
Charles J. Sheehan, B.S.Ed., *Veterans' Coordinator and Coordinator of Scholarships* (1957).

Standing Committees

THE UNIVERSITY

ADMISSIONS: The Registrar and the deans of all colleges and schools admitting freshmen.

ARBORETUM: E. L. Core, R. O. Duncan, J. L. Hayman, J. G. Leach, R. S. Marsh, Edwin Orr, and W. C. Percival.

BOARD OF GOVERNORS SCHOLARSHIPS: F. J. Holter, Betty Boyd, C. H. Cather,, J. L. Hall, J. E. Long, and M. L. Vest.

BUILDINGS AND GROUNDS: A. R. Collett, H. M. Cather, R. O. Duncan, Edwin Orr, and A. H. VanLandingham.

OFF-CAMPUS CONTACTS: W. R. Summers, Jr., D. H. Bond, M. G. Brooks, C. W. Brown, Mary C. Buswell, T. C. Campbell, Jr., P. W. Gainer, Francisco Herrera, D. W. Jacobs, J. E. Long, and Dana Wells.

PERMANENT BUILDINGS: C. L. Lazzell, R. D. Baldwin, H. M. Cather, R. S. Marsh, and F. P. Summers.

SPACE ALLOCATION: R. D. Baldwin, C. L. Lazzell, J. E. Long, and Edwin Orr.

THE SENATE

EXECUTIVE COMMITTEE: President Stahr, H. A. Gibbard, Quin F. Curtis, E. C. Jones, R. F. Krause, J. E. Long, F. P. Summers, and D. T. Watts.

COMMITTEES: J. G. Ludlum, J. C. Burchinal, F. E. Lorince, Jr., R. S. Marsh, and J. G. Scherlacher.

ENGLISH PROFICIENCY BOARD: O. H. Cross, D. H. Bond, A. N. Hofstetter, J. A. Kent, H. P. Pettigrew, Collins Veatch, and C. P. Yost.

EXTENSION: R. E. Shafer, P. W. Gainer, E. C. Kennedy, J. O. Knapp, E. B. McCue, W. R. Ross, and G. R. Spindler.

FACULTY WELFARE: J. G. Leach, J. F. Carruth, W. H. Childs, H. D. Collins, J. G. Scherlacher, R. H. Theophilus, and L. W. Welden.

INSTRUCTIONAL POLICIES AND PRACTICES: G. A. Hall, G. G. Anderson, J. F. Hamilton, D. E. Hayhurst, A. C. McBride, Nadine Page, L. M. Sizer, and E. M. Steel, Jr.

INTER-COLLEGE RELATIONS: A. R. Collett and all Deans.

LIBRARY: R. F. Munn, W. H. Dickerson, H. A. Gibbard, A. O. Haughland, R. L. Johnson, Jr., L. H. Saxe, and C. B. Seibert.

MEMBERSHIP: J. L. Hall, A. E. Lewis, M. E. Lugar, and Robert Stilwell.

PUBLICATIONS: A. E. Singer, H. D. Bennett, R. E. Foster, Frances C. Krauskopf, John Luchok, E. W. Roberts, and J. A. Welch.

RESEARCH: C. W. Muth, J. W. Draper, R. B. Dustman, H. A. Gibbard, W. K. Harrell, W. A. Koehler, R. M. Kottman, I. D. Porterfield, K. V. Randolph, J. H. Thompson, H. A. Wilson, and D. T. Worrell.

STUDENT AFFAIRS: J. C. Gluck. Members to consist of the various chairmen of subcommittees on student affairs as appointed by the President.

Convocations: J. C. Gluck, B. R. McGregor, D. T. Watts; student members: Tom Damerone, Elizabeth Lilly, Elise Pettrey, and Joy Strawn.

Discipline: C. K. Sleeth, H. P. Pettigrew, and M. L. Vest.

New Residences: J. C. Gluck, L. R. Gribble, Stephen Harrick, and Cornelia Ladwig.

Off-Campus Schedules: J. C. Gluck, A. R. Collett, and J. L .Hayman.

Prizes, Scholarships, and Loan Funds: J. C. Gluck, Betty Boyd, Q. F. Curtis, A. W. Goodspeed, J. E. Long, and R.M. White.

Social Affairs: J. C. Gluck, Betty Boyd, Wincie Ann Carruth, H. A. Gibbard, E. C. Lowe, and C. B. Seibert; student members: Dave Berry, Beverly Dippel, Barbara Sayre, and Robert Williams.

Student Fee Fund: J. C. Gluck and Betty Boyd; student members: Bernard Allen, Maria Sagris, and Don Snyder.

Student Organizations: F. J. Holter, Mary C. Buswell, and H. F. Kidder.

Student Publications: Warren Agee, Henry Collins, P. W. Gainer, Fred E. Wright, and John Luchok; student members: Pat Calhoun, Margaret Christopher, and Darrell McGraw.

Sub-Committee on Loans: J. C. Gluck, J. H. Clarke, C. L. Lazzell, and E. O. Roberts.

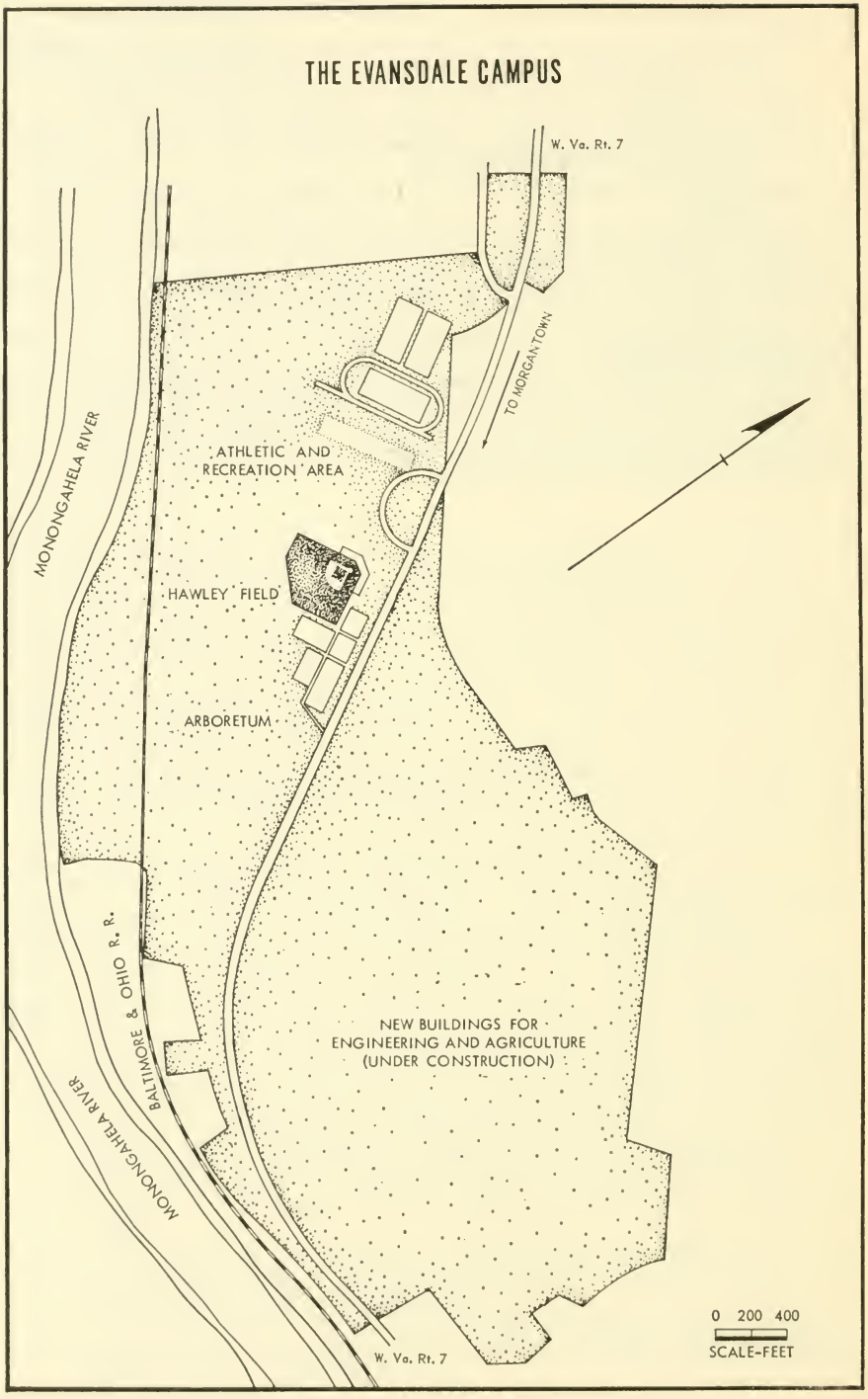
STUDENT ELIGIBILITY: Rebecca E. Wade, J. C. Gluck, M. T. Heald, J. E. Long, John Semon, and D. C. Shelton.

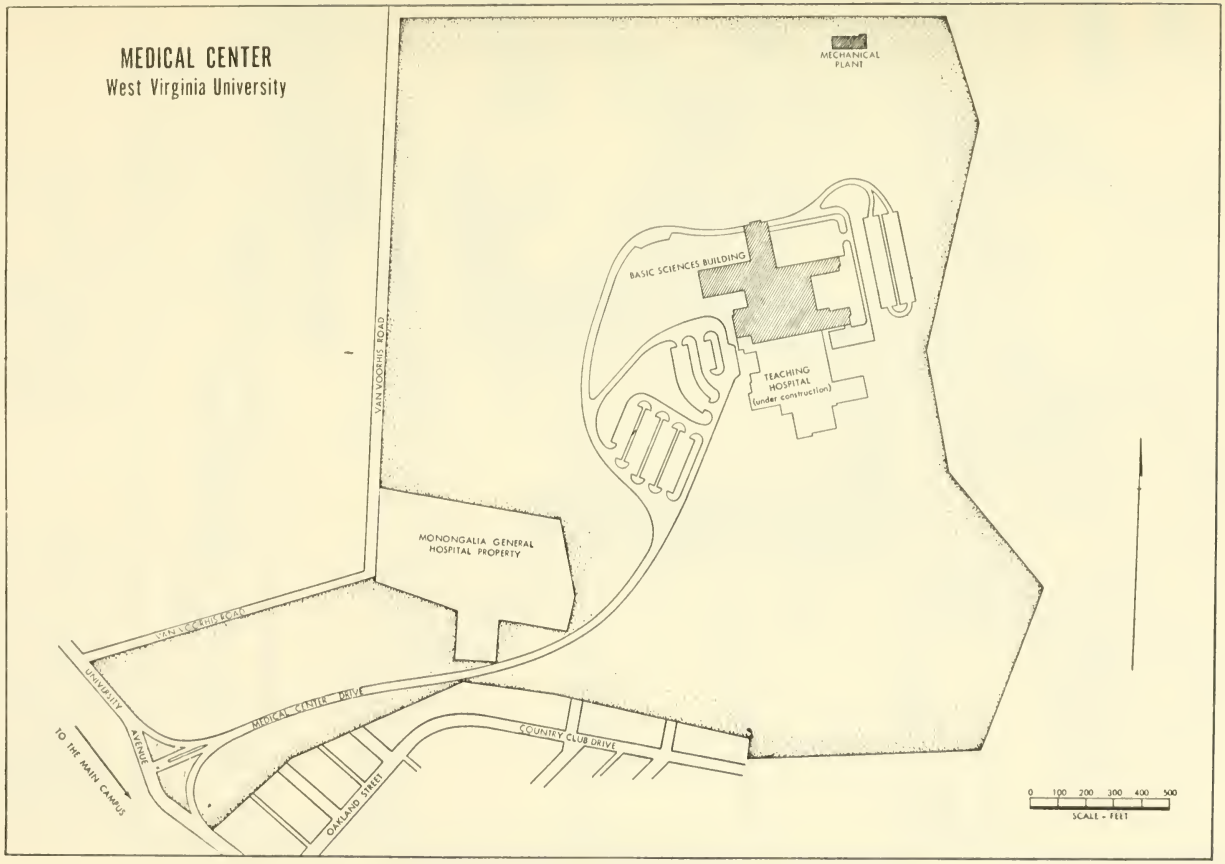
STUDENT ETHICS IN ACADEMIC WORK: Nellie P. Ammons, S. E. Dadisman, G. E. Schafer, J. M. Slack, and D. L. Wilhelm.

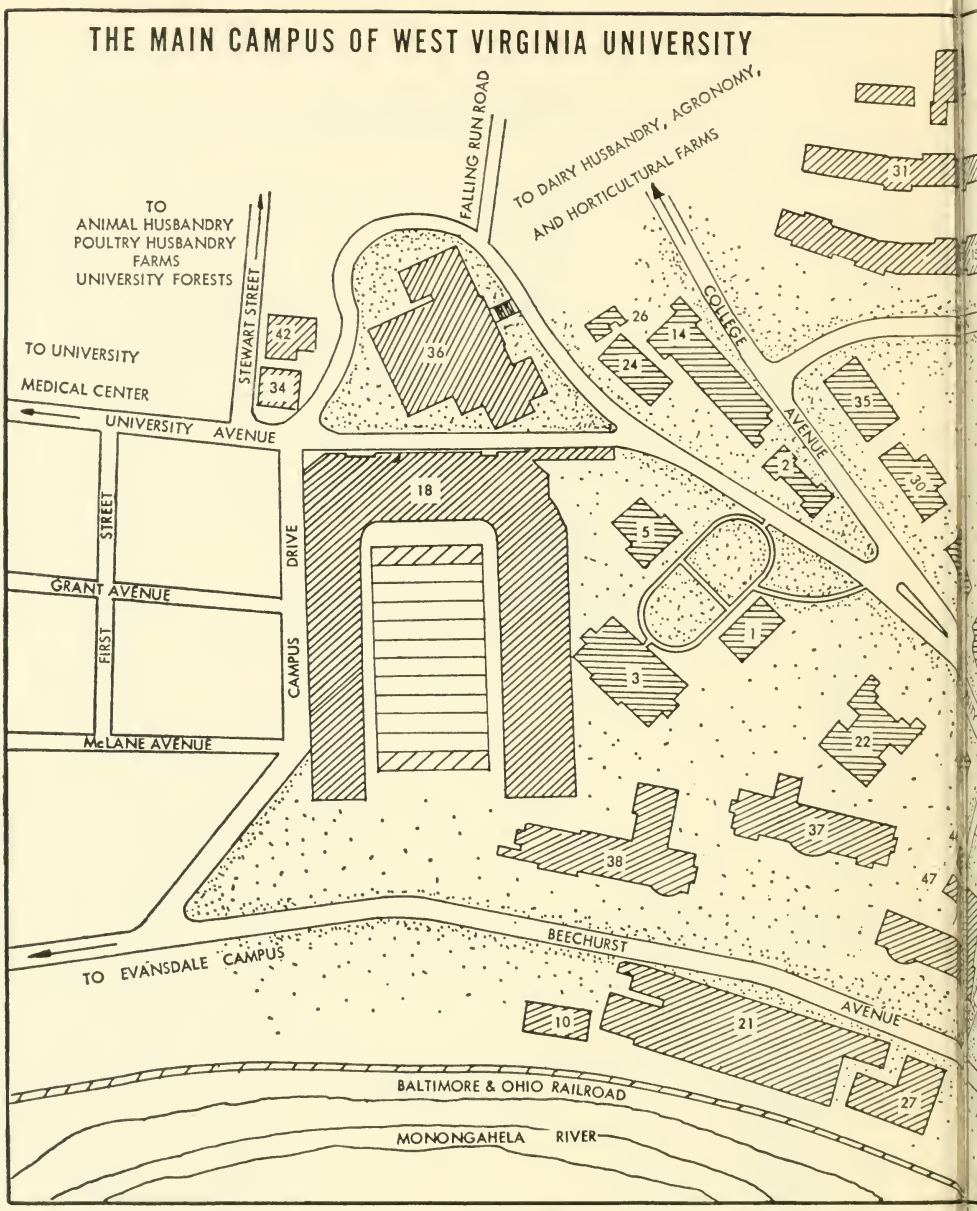
TEACHER EVALUATION: G. W. Weaver, P. A. Atkins, K. L. Carvell, R. J. Johnson, and V. G. Lilly.

TEACHER TRAINING: J. P. Brawner, D. S. Barnhart, C. W. Brown, Sara Ann Brown, R. C. Butler, Wincie A. Carruth, E. K. Feaster, J. B. Hickman, D. F. Miller, Charles Norman, Frank Peluso, and I. D. Peters.

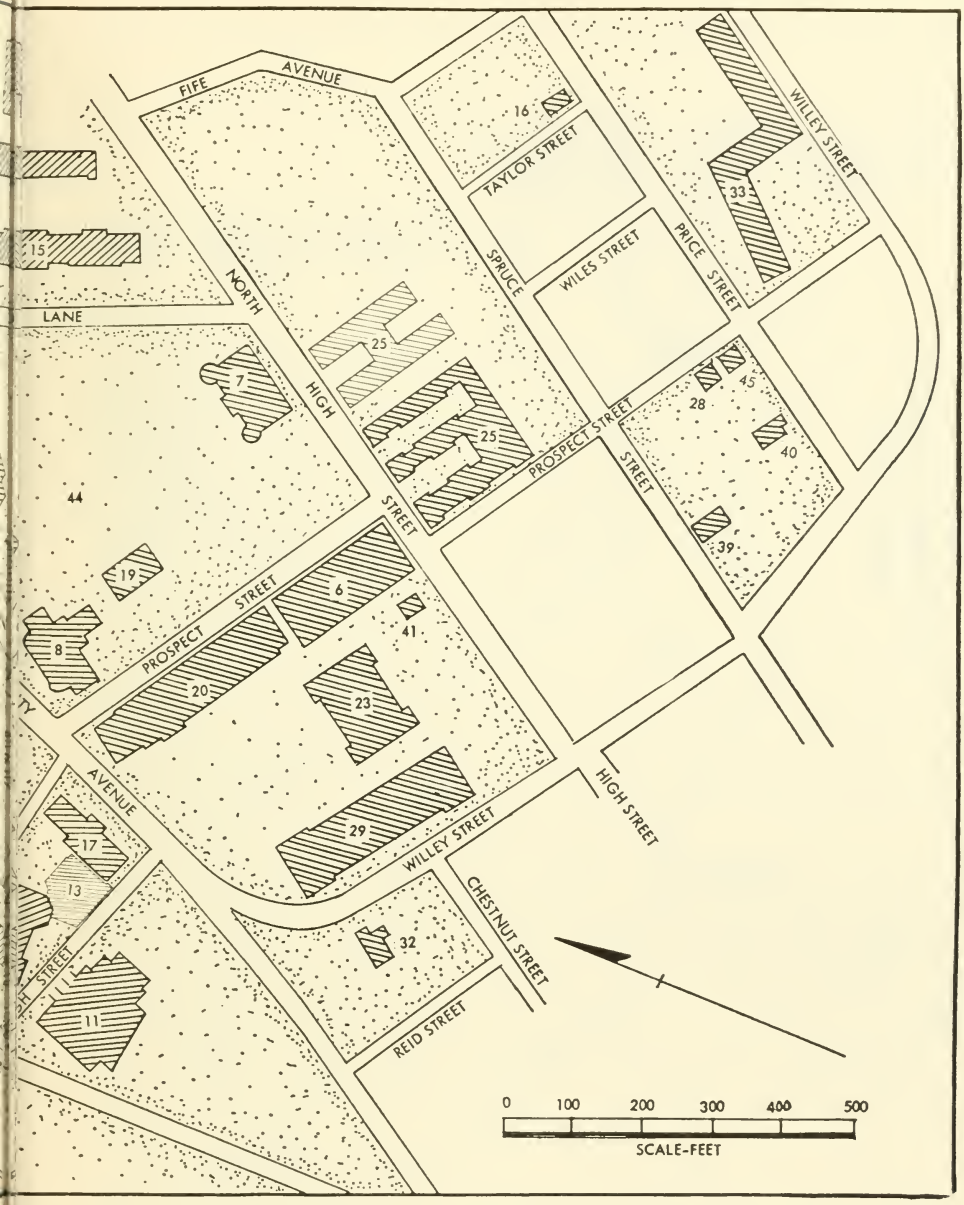
TENURE AND RETIREMENT: L. H. Brown, C. K. Dorsey, R. F. Krause, C. L. Lazzell, S. J. Weese, and F. E. Wright, II.


THE EVANSDALE CAMPUS
W. Va. Rt. 7
TO MORGANTOWN
MONONGAHELA RIVER
ATHLETIC AND
RECREATION AREA
HAWLEY FIELD
ARBORETUM
BALTIMORE & OHIO R. R.
MONONGAHELA RIVER
NEW BUILDINGS FOR
ENGINEERING AND AGRICULTURE
(UNDER CONSTRUCTION)
W. Va. Rt. 7
0 200 400
SCALE-FEET


MEDICAL CENTER
West Virginia University
MECHANICAL PLANT
BASIC SCIENCES BUILDING
TEACHING HOSPITAL (under construction)
VAN VOORHIS ROAD
MONONGALIA GENERAL HOSPITAL PROPERTY
VAN VOORHIS ROAD
UNIVERSITY AVENUE
MEDICAL CENTER DRIVE
COUNTRY CLUB DRIVE
OAKLAND STREET
TO THE MAIN CAMPUS
0 100 200 300 400 500
SCALE - FEET



1. Martin Hall
2. Experiment Station Building
3. Woodburn Hall
4. Reynolds Hall
5. Science Hall
6. Engineering Building No. 1
7. Armory
8. Administration Building
9. President's Home
10. Heating Plant
11. School of Music
12. Horticulture Greenhouses
13. Book Store
14. Oglebay Hall
15. Woman's Hall
16. Agricultural Economics No. 2
17. Law Building
18. Mountaineer Stadium
19. Speech Annex
20. Chemistry Building
21. Field House
22. Elizabeth M
23. Library
24. Oglebay Ha
25. Men's Hall
26. Agricultural
27. Engineering
28. Textiles Lab
29. Mineral Ind
30. Health Cen



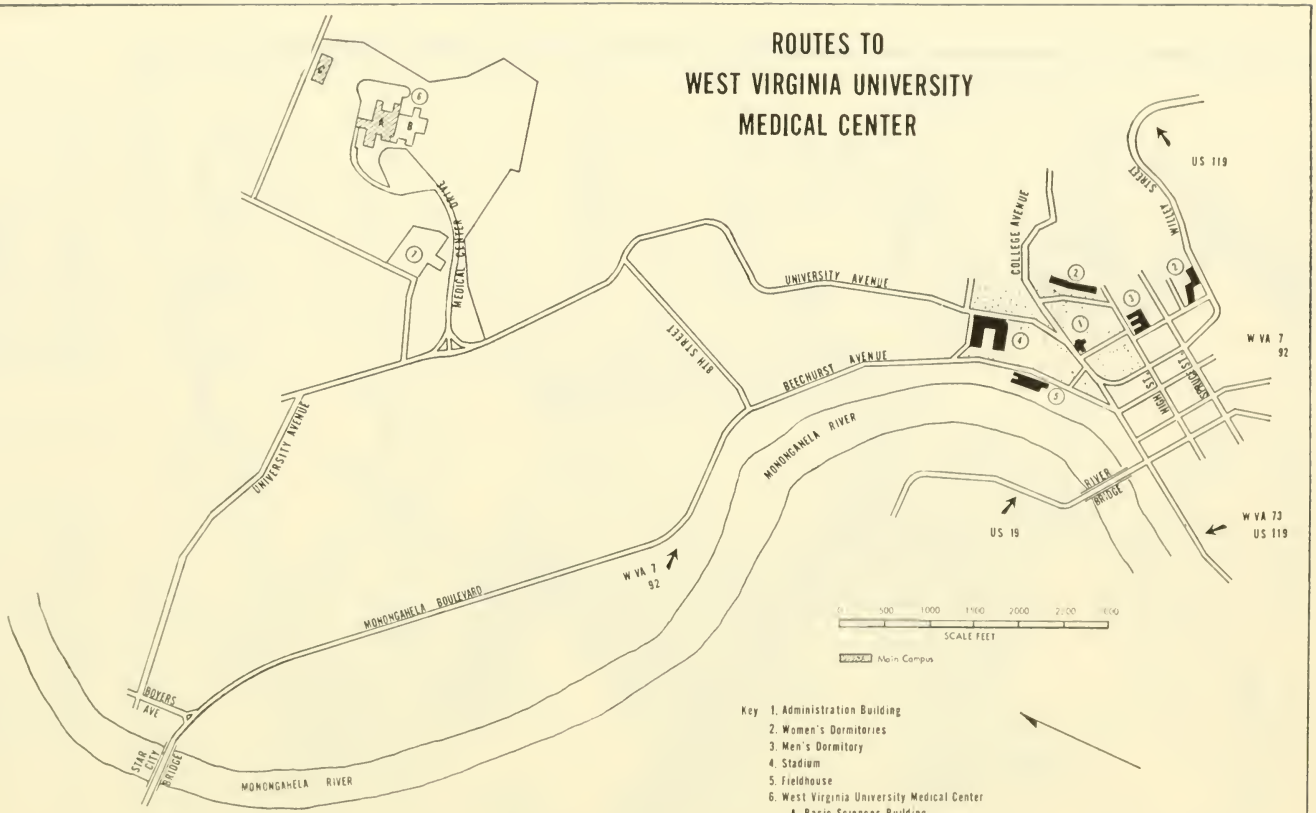
Hall

lex

omics No. 1
ging No. 2
ry
Building

31. Terrace Hall
32. Home Management House
33. New Women's Dormitory
34. Forestry Building
35. Cafeteria
36. Mountainlair
37. Armstrong Hall
38. Brooks Hall
39. Spruce Street Annex
40. Nursery School
41. Faculty Club
42. Plant Pathology Greenhouse
43. Physics Building
44. Drill Field
45. Home Management Apartments
46. Counseling Center
47. Placement Office

ROUTES TO WEST VIRGINIA UNIVERSITY MEDICAL CENTER



Part I

GENERAL INFORMATION

WEST VIRGINIA UNIVERSITY

HISTORY

West Virginia University had its origin in the Congressional Land-Grant (Morrill) Act of July 2, 1862, for the benefit of agriculture and the mechanic arts, and in an act of the State Legislature of October 3, 1863, accepting the conditions of the Congressional act. In case of a doubt regarding the rights of West Virginia under the act, the Legislature asked that the benefits be extended to her. By an act of April 19, 1864, the request was granted, and land-script for 150,000 acres, most of which were later located in Iowa and Minnesota, was issued to the new state.

On January 9, 1866, the trustees of Monongalia Academy offered to give the State all its property, including the site and other property of nearby Woodburn Female Seminary, representing a total value of about $51,000, on condition that the proposed college "be located permanently at or near Morgantown." On February 7, 1867, the Legislature accepted the offer of Monongalia Academy and established the "Agricultural College of West Virginia" at Morgantown.

Government and control of the "Agriculture College" were vested in a Board of Visitors composed of one member from each of the State's eleven senatorial districts. In response to requests from President Martin, the Legislature, by an act of December 4, 1868, changed the name of the "Agricultural College" to "West Virginia University." At the same time the name of the controlling body was changed from "Board of Visitors" to " Board of Regents." Primarily to serve political purposes, the number of regents was changed from time to time until 1919, when government and control were vested in a State Board of Education of five members, including the State superintendent of free schools as the ex officio chairman. This plan proved unsatisfactory, and an act of April 14, 1927, vested control in a Board of Governors of seven members. The number was increased in 1947 to nine.

From 1867 to 1895 and even longer, leaders were divided as to whether West Virginia should have a State-supported university or one "first-class" State-supported college. With devotees of liberty dominating the situation "the College Plan" was favored. Component "departments" and "schools," with the professors generally occupying "chairs," functioned autonomously and somewhat provincially. Efforts to comply with the Hatch Act (1887) and the Second Morrill Act (1890) brought larger viewpoints. As a result President Goodknight, who had traveled abroad, in 1895 attempted to convert "the College" into a university. For that purpose "the eight Academy Schools, five Technical and Professional Schools, and four Special Courses" were organized into four colleges, each with a dean, as follows: Arts and Sciences, Powell B. Reynolds; Engineering and Mechanic Arts, William S. Aldrich; Agriculture, John A. Meyers; and Law, Judge Okey Johnson. The School of Music was established in 1897, a "Summer Quarter" or "Continuous Session" in 1898, and a College of Medicine in 1900.

Both the College of Medicine and the Summer Quarter were discontinued in 1901. Beginning in 1897 the College of Arts and Sciences and the College of Engineering and Mechanic Arts functioned without deans and through more or less autonomous departments and schools to 1911 when the deanships were revived. In 1902 a semblance of the "Summer Quarter" was revived in the "Summer School" which in 1932 become the "Summer Session." Alternating between a department and a school organization since 1867, Military Science and Tactics became a division in 1911. The arrangement made in 1903 with the College of Physicians and Surgeons, Baltimore, for maintaining a University College of Medicine proved unsatisfactory. It was discontinued in 1910, and the "Medical Sciences" were offered in a department of the College of Arts and Sciences to 1912 when the present School of Medicine was established. In 1914

a Department of Pharmacy was established in the School of Medicine. In the same year the Department of Home Economics, previously a unit in the College of Arts and Sciences, was transferred to the College of Agriculture. The Division of Agricultural Extension was organized in 1912 and the Division of Mining and Industrial Extension in 1914.

The building program inaugurated in 1917 brought additional expansions and curricular offerings. Among the former were the Engineering Experiment Station, 1921, and the School of Mines, 1926, which in 1950 became an independent unit. In 1927 the courses in education were transferred from the College of Arts and Sciences to the newly created College of Education, and in 1928 the Division of Physical Education was established. Curricular offerings were being improved meanwhile through additional and better qualified personnel. In January, 1930, the Board of Governors established a Graduate School authorized to offer graduate degrees in certain indicated fields.

The Depression (1929-35) slowed expansion somewhat, but progress was resumed in 1936 when the Department of Pharmacy was discontinued as a unit of the School of Medicine and converted into the College of Pharmacy. The next year the Division of Physical Education and the Department of Athletics were combined into the School of Physical Education and Athletics. At the same time (1937), the course in Forestry, begun in 1935 as a two-year curriculum in the College of Agriculture, was expanded to a four-year course, and the name of the sponsoring unit was changed to the College of Agriculture, Forestry, and Home Economics. In 1939 the Department of Journalism was discontinued as a unit in the College of Arts and Sciences and became the School of Journalism. The same year a Department of Art was established in the College of Arts and Sciences. In 1940 the College was further enlarged by the inclusion of a Department of Social Administration, authorized to offer a graduate curriculum leading to the professional Certificate of Social Work. In 1941 the name was changed to the Department of Social Work and in 1944 the Department was authorized to establish an undergraduate curriculum in social work leading to the Bachelor of Science Degree. In 1950 the Board of Governors authorized the degree of Master of Social Work and approved the establishment of a two-year curriculum leading to that degree. In 1944 a four-year course leading to the B.S. (Medical Technology) Degree was approved to be given jointly by the College of Arts and Sciences and the School of Medicine. In 1948 the Board of Governors approved an order authorizing the College of Arts and Sciences to offer a general course as an integral part of its curriculum and an optional lower-division program of general studies. In 1951, the Department of Business Administration was discontinued as a unit in the College of Arts and Sciences and converted into the College of Commerce. In 1953 the School of Dentistry was established. In 1958, the College of Pharmacy was reconverted into the School of Pharmacy, marking the integration of the School into the University's expanding medical sciences program. The University's Kanawha Valley Graduate Center of Science and Engineering was established at Institute, with the first classes beginning in September of 1958.

The University has had thirteen regular presidents, eleven acting presidents, and one chairman of the faculty. Together with their periods of service, they were Alexander Martin, April 3, 1867-August 12, 1875; Vice-president John Work Scott (acting), September 6, 1875-March 27, 1877; John Rhey Thompson, March 28, 1877-March 12, 1881; Vice-president Daniel Boardman Purinton (acting), March 13, 1881-1882; William Lyne Wilson, 1882-1883; Robert Carter Berkeley (Chairman of the faculty), 1883-1885; Eli Marsh Turner, 1885-July 21, 1893; Vice-President Powell Benton Reynolds (acting), July 24, 1893-1895; James L. Goodknight, 1895-August 6, 1897; 1897; (from August 6 to August 10, 1897, Vice-president Robert Allen Armstrong was nominally acting president); Jerome Hall Raymond, August 10, 1897-1901; Powell Benton Reynolds (acting), March 21, 1901-July 31, 1901; Daniel Boardman Purinton, August 1, 1901-July 31, 1911; Alexander R. Whitehill (acting), August 1, 1911-September 30, 1911; Thomas Edward Hodges, October, 1911-August 31, 1914; Frank Butler Trotter (acting), July 9, 1914-1916; 1916-1928; John Roscoe Turner, 1928-December 31, 1934; Robert Allen Armstrong (acting), January 1, 1935-September 30, 1935; Chauncey Samuel Boucher, October 1, 1935-August 31, 1938; Charles Elmer Lawall (acting), September 1, 1938-1939; 1939-August 31, 1945; Charles Thompson Neff, Jr., (acting), September 1, 1945-1946; Irvin Stewart 1946-1958; Clyde Colson (acting), August 26, 1958-January 31, 1959. Elvis Jacob Stahr, Jr., became the fourteenth President on February 1, 1959.

LOCATION

The main campuses of the University are located in Morgantown, Monongalia County, 80 miles southeast of Wheeling and 200 miles north of Charleston. The community is served by the Baltimore and Ohio Railroad (limousine service between Morgantown and Grafton), Capital Airlines, three bus lines, and Routes 7, 19, 73, 92, and 119.

ACCREDITATION

West Virginia University is a member of the North Central Association of Colleges and Secondary Schools. It is accredited by the North Central Association and various accrediting agencies.

PHYSICAL PLANT

West Virginia University's main campus comprises 74.35 acres near the center of Morgantown. Its Evansdale campus, located about one and one half miles northwest of the main campus, consists of approximately 260 acres acquired in 1948. This campus is the site of the new buildings of the Colleges of Agriculture and Engineering, which are now under construction. In 1951, the Monongalia County Court deeded to the University approximately 85 acres of land adjoining 55 acres already owned by the University. This 140-acre tract, located about one and one-half miles north of the main campus, is the site of the new University Medical Center. The first building of the Center, the Mechanical Plant, was completed in 1954. The Basic Sciences Building was opened for classes in September, 1957. Construction was started on the Teaching Hospital in July, 1957. It must be completed before the four-year medical curriculum can be instituted.

Much of the main campus is on high ground overlooking the Monongahela River and the surrounding countryside. The physical plant includes 47 state-owned buildings or structures on campus, five demonstration and experimental farms near Morgantown, four additional experimental farms and two agricultural extension centers located at suitable points throughout the State, a summer surveying camp for civil and mining engineering students, and a summer camp for forestry and biological sciences students. A new women's dormitory was put into use in September, 1956. Construction of an addition to Men's Hall, accommodating 240 students, is expected to be completed by September, 1959.

Structures on the main campus, with the dates of their completion or acquisition, are: Martin Hall, 1870; Woodburn Hall, 1876; Agricultural Experiment Station (the present central part served as the University Armory from 1873 to 1888), 1899; Science Hall, 1893; Armory, 1902; Administration Building (which was the old Library), 1902; President's Home, 1905; Heating Plant, 1906; Placement Office, 1914; Horticultural Greenhouse, 1915; Oglebay Hall, 1918; Woman's Hall (the wings were added in 1935), 1919; Plant Pathology Greenhouse, 1920; Law Building, 1923; Speech Annex (was the University cafeteria until 1947, now houses scene shops of the Department of Speech and shops of the Department of Buildings and Grounds), 1924; Mountaineer Field, 1925; Hall of Chemistry, 1925; Elizabeth Moore Hall, 1928; Field House, 1929; University Library, 1931; Deahl Hall, to 1948 the "University Rural High School," 1933; Men's Hall, 1935; Oglebay Hall Annexes, 1933 and 1937; Reynolds Hall (formerly "Commencement Hall," completed in 1893), 1940; Mineral Industries Building, 1942; University Health Center, 1942; Terrace Hall, 1942; Home Management House, 1942; Forestry Building, 1946; Stoker Laboratory, 1946; Cafeteria, 1947; Mountainlair, 1948; Armstrong Hall, 1950; Brooks Hall, 1951; Physics Building, 1952; Music Building, 1954; New Women's Dormitory, 1956; and Engineering Buildings Nos. 1 and 2, 1957.

The farms, with dates of acquisition, are: Dairy Husbandry Farm, 175 acres (1899) and 29.5 acres (1941); Horticulture Farm, 62.5 acres (1916); Animal Husbandry Farm, 321 acres (1916) and 262.5 acres (1941), including an portion for poultry husbandry; Agronomy Farm, 102 acres (1916) (6 acres donated to College of Engineering for aeroplane hanger in 1943, 15.7 acres transferred to City of Morgantown (1946) for runway extension in exchange for 52.3 acres at County Farm); total acreage of Agronomy Farm, 132.6 (1947); and Poultry Husbandry Farm, 20 acres (1916), all near Morgantown; University Experiment Farm at Kearneysville, Jefferson County, 158 acres (1930); Reymann Memorial Farms at Wardensville, Hardy County, 930 acres (1917) and 57 acres (1943); Reedsville Experiment Farm, Preston County, 457 acres

(1944); Ohio Valley branch, Mason County, 150 acres (1948); Tygart Valley Farm (Forestry), Randolph County, 495 acres (1949); Camp Russell Love Morris (Engineering), Preston County, 53.5 acres (1950).

The agricultural extension centers, with dates of establishment, are the State 4-H Camp at Jackson's Mill, Lewis County (1921), and the Recreation Center at Oglebay Park, Ohio County (1926).

Approximately 50 acres of mostly wooded land along the west side of Monongahela Boulevard were set aside in 1948 for growing trees, wildflowers, and other plants, and for their display for students of botany, forestry, horticulture, etc., as well as for the general public. Footpaths have been constructed to provide access to various parts of the Arboretum.

FUNDS

Funds for maintaining the University, the Agricultural Experiment Station, and the Agricultural Extension Service are derived from the following sources; (1) interest on the land-grant endowment of $155,300; (2) Federal Morrill-Nelson and Bankhead-Jones funds; (3) annual appropriations by the Legislature; (4) student activities fees; (5) Hatch Act Amended; (6) Agricultural Extension Consolidated; (7) tuition of high-school students paid by Monongalia County Board of Education; (8) income derived from sale of farm and dairy products, as well as income from athletics, dormitories, dining halls, book store, student activities, etc.; (9) grants by Federal agencies for special research and extension projects; (10) contribution by private benefactors for the support of scholarships, loan funds, and prizes.

GOVERNMENT AND ORGANIZATION

Direction of educational, administrative, financial, and business affairs of the University is vested in the Board of Governors. The board is bipartisan and consists of nine members who are appointed by the Governor with staggered terms of service.

The University year is divided into two semesters of approximately eighteen weeks each and a Summer Session of two terms of six weeks each.

Acting in an advisory capacity to the President and assisting him in carrying out established University policies is a *Council of Administration,* composed of the President, the Registrar, and the deans of all colleges and schools, as well as other administrative officers who may be called to take part in the deliberations of the Council.

The *University Senate,* a legislative body with jurisdiction over all academic matters that concern the entire University and all matters that concern more than one college or division, is composed of the President, the Registrar, all professors, associate professors, and assistant professors in all colleges, schools, and divisions, and all heads of departments.

The *Graduate Faculty,* composed of all members who teach courses on the graduate level, sets the specific requirements and standards of quality for admission to candidacy for graduate degrees and for the award of graduate degrees.

The *Committee on Student Affairs* acts as an integral part of the whole organization of the University. Its program is bound up with that of the University as a whole, designed to serve the larger academic and social objectives of modern education. For a list of members, see page 6.

Colleges and Schools

The organization of the University, together with dates of establishment of the various colleges and schools, etc., follows:

Colleges: College of Arts and Sciences, 1895; College of Law, 1895; College of Engineering and Mechanic Arts, 1895; College of Agriculture, 1895; College of Education, 1927; College of Pharmacy (changed to the School of Pharmacy in 1958), 1936; and the College of Commerce, 1952.

Schools: School of Music, 1897; the Summer Quarter, 1898-1900, Summer School, 1902-1831, and Summer Session, 1932; School of Medicine, 1912; School of Mines, 1926; Graduate School, 1930; School of Physical Education and Athletics, 1937; School of Dentistry, 1953; and the School of Pharmacy (formerly the College of Pharmacy), 1958.

Divisions: Division of Military Science and Tactics, 1911; Division of Military and Air Science and Tactics, 1949; Division of Military Science and Tactics and Air Science, 1955; Division of Home Economics, 1937; and the Division of Forestry, 1937.

Experiment Stations and Research Bureaus: Agricultural Experiment Station, 1888; Engineering Experiment Station, 1921; Government Research Bureau, 1931-1935, 1949; and the Bureau of Business Research, 1949.

Extension Service: Agricultural Extension, 1912; Mining and Industrial Extension, 1914; Extension in Education, 1915; Liberal Arts Extension, 1916; University Extension, 1930; and the Institute of Industrial Relations, 1956.

The College of Agriculture, Forestry, and Home Economics; the College of Arts and Sciences, the College of Engineering and Mechanic Arts; the School of Music, the School of Mines, and the School of Physical Education and Athletics are all degree-granting units admitting freshmen. The College of Education, the College of Commerce, the School of Dentistry, the School of Journalism, the College of Law, the School of Medicine, and the School of Pharmacy are professional colleges and schools requiring from two to three years of academic training as a foundation for professional work. All graduate instruction is administered by the Graduate School through the Graduate Faculty.

A full description of the organization and offerings of the colleges and schools of the University is found in Part II of this *Catalog*.

Summer Session

The Summer Session of the University is held from June to August. The session is made up of two terms of six weeks each.

University High School will be in session the first nine weeks for secondary-school student teaching, practice supervision, and observation. The University Laboratory Elementary School also will be in session during the first six weeks for elementary school observation and practice supervision.

Requirements for admission and character of the work offered are the same for the Summer Session as for the regular academic year.

Credit may be obtained towards the Bachelor's and Master's Degrees in most of the departments and toward the Doctorate in some departments. Offerings are varied from summer to summer so that students may complete the work for the Master's Degree by attending summer sessions only.

For complete description of courses, see the *Summer Session Bulletin*.

Evening Education

The University offers a program of evening classes for the benefit of those who wish to continue their education beyond the high-school level and who are unable to attend the usual day classes.

All courses are taught by resident faculty members and carry full college residence credit. Many of these courses may be counted toward advanced degrees.

Division of Military Science and Tactics and Air Science

Requirements

West Virginia University, a beneficiary of the Act of Congress of 1862, offers in time of peace four-year courses of instruction in Military Science and Tactics and Air Science. Normally successful completion of one of these courses and degree requirements leads to a commission as Second Lieutenant in the United States Army Reserve, or the United States Air Force Reserve. Distinguished Military Graduates of West Virginia University may apply for and be offered commissions as second lieutenants in the Regular Army or the Regular Air Force, under conditions prescribed by law.

The course comprises two years of basic training (Military Science 1, 2, 3, and 4, or Air Science 1, 2, 3, and 4), two years of advanced training (Military Science 105, 106, 107, 108, or Air Science 105, 106, 107, and 108), and summer camp for six weeks duration for Military Science students and four weeks summer training for Air Science students during the summer following the junior year. The Army summer camp and Air Force summer training is conducted at government expense, and eligible students are paid $78 monthly in addition to traveling expenses at the rate of 5 cents per mile.

All male students not specifically exempt by provisions of the appropriate paragraph below are required by chapter eighteen, article eleven, of the official Code of West Virginia, and by orders of the Board of Governors of the University, to complete satisfactorily the entire basic course as prerequisite to graduation from the University

Within deferment quotas established by Public Law 758, 80th Congress, qualified and selected enrolled students are offered the opportunity of being deferred by the Professor of Military Science and Tactics or the Professor of Air Science from military service under the Selective Service Act of 1948 and Selective Service Extension Act of 1950, as amended by the Universal Military Training and Service Act, November, 1951, as amended, until completion of their military courses and receipt of their Baccalaureate Degree. Such deferment is subject to cancellation should the student not be selected for the advanced course, fail to remain in good standing, or to develop the qualities expected of an officer.

Curriculum

Basic instruction is given for three hours per week throughout the two semesters of each school year. Two hours' credit is allowed for each semester's work.

The third and fourth years of instruction in Military Science and Air Science, corresponding to the junior and senior years of the student, comprise the advanced course and are entirely elective on part of the student and selective on part of the Professor of Military Science and Tactics and Professor of Air Science. Application for advanced training should be made at the beginning of the second semester of the student's sophomore year. Students should consult their advisers concerning scholastic hours credit authorized for the advanced ROTC courses.

Enrollment in the advanced courses, Army or Air Force ROTC, is elective on the part of those students who may be selected by the President of the University and the Professor of Military Science and Tactics or the Professor of Air Science, under regulations prescribed by the Secretary of the Army or the Secretary of the Air Force. Each student who shall have enrolled in either advanced course shall complete that course and, if tendered, accept a commission in a reserve component of the Army or Air Force upon completion of the course as a prerequisite for his graduation from the University, unless he is excused from this requirement by the authority of the Secretary of the Army or the Secretary of the Air Force.

All Army advanced course military science students follow the same curriculum on the basis of five hours per week. Assignment to branch of Army ROTC students is made by the Department of the Army during the fourth year of instruction, based upon the preferences of the student, his personal qualifications, civilian occupational and military experience, academic curriculum pursued, and the needs of the Army. Three hours' credit is allowed for each semester completed.

Advanced Air Science students follow a common course of instruction for all students on the basis of five hours per week. Three hours' credit is allowed for each semester completed.

A limited number of students enrolled in the senior year Army ROTC may participate in the Army's ROTC Flight Training Program in light aircraft.

This program, consisting of 35 hours of ground instruction and 36 hours of dual and solo flight instruction, is offered without cost to the student. No academic credit is given, however, and participating seniors take the training as extra-curricular work, in addition to their regularly-scheduled Military Science classes.

Only those students who pass rigid flight physical examinations may apply for the Army Flight Training Program.

Students who successfully complete this program qualify for the private pilot's license.

Senior Air Science students enrolled in Category I (Pilot) are required to participate in the Flight Instruction Program. This program consists of 35 hours of ground instruction and 36½ hours of dual and solo flight instruction for the private pilot's license. The 35 hours of ground instruction is included in the junior and senior curriculum. There is no additional fee for this program.

Students with twelve months or more of previous honorable active service are eligible to apply for enrollment in the Army Advanced course immediately upon entrance into the University for the fall semester of their junior year. Students with less than twelve month's service, but six or more, will be eligible to apply for enrollment in the advanced course only upon completion of Military Science 3 and 4. Students with prior service desiring to enter Advanced Air Science must have their status as to enrollment determined by the Professor of Air Science at the time of initial enrollment in the University. However, no student will be given credit for Basic Air Force ROTC after only 6 months of active duty for training.

Allowances

Commutation of subsistence, in the amount of the current value of the field ration (approximately $0.90 per day), will be paid monthly to each student taking the advanced course. In addition, uniforms, equipment, and military or air science textbooks are issued to all military or air science students by the government.

Military Deposit

Each student is financially responsible for all government property he is issued. A deposit of $10 will be given to the Comptroller at time of registration to cover any loss or damage to Government property while in his possession. This deposit, less a nominal administrative charge, will be refunded upon return of the undamaged property.

Exemptions

The following students will not be required to enroll in the Division of Military Science and Tactics and Air Science, but may elect to do so with the approval of the Professor of Military Science or the Professor of Air Science:

(1) Those who are not citizens of the United States.
(2) Those who, at time of entrance, are more than 23 years of age, and former students over that age who re-enter the University after an absence of three years.
(3) Graduate students.
(4) Students who are taking only short courses, the special interim courses, or extension work.
(5) Transfer students who at the time of matriculation have established 58 semester hours with the Registrar of the University.
(6) Students who have successfully completed the two-year basic Army, Navy, or Air Force ROTC course at any institution maintaining a Senior Division unit. Those who have satisfactorily completed one, two, three, or four semesters of ROTC training in a senior division will be allowed comparable hours credit and exemption from comparable military training.
(7) Students who are unable to perform military duty for physical reasons.

Students who have had previous training, other than in a senior division ROTC unit, will be allowed exemption from military training as determined by the Professor of Military Science and Tactics, or the Professor of Air Science, and the Registrar. No credit will be given in Air Science for Junior Division ROTC. Scholastic hours credit will be allowed for military training for which a student is exempted. Students applying for entrance who have had previous ROTC training should request the institution where such training was received to submit the pertinent ROTC student's records to the University, prior to the date of registration.

Students with one year or more previous honorable active service in one of the Armed forces are exempted from taking basic military training (i.e., Military or Air Science 1, 2, 3, 4). Students with six months but less than one year's service are exempted from taking the first year of basic training (i.e., Military or Air Science 1 and 2). Scholastic hours credit will be allowed for military training for which a student is exempted. Note *curriculum* for requirements for Advanced Military Science and Tactics and Air Science.

Exemptions will be determined by the Director of the Student Health Service (physical exemptions), and the Professor of Military Science and Tactics or the Professor of Air Science, who will notify the Registrar and the student's adviser.

Organization

The Division of Military Science and Tactics and Air Science and the conduct of military science and air science instruction is the responsibility of the Professor of Military Science and Tactics and the Professor of Air Science, who, together with their military staffs, are officers and non-commissioned officers of the Army and the Air Force, appointed by the Department of the Army and the Department of the Air Force for duty at West Virginia University.

Reserve Officers Training Corps Bands

There is an Army ROTC Band and an Air Force ROTC Band. Membership is restricted respectively to basic Army and Air Force ROTC students. Assignment to one of the bands is determined by audition before the Director of the Band.

LIBRARY

The Library's function is to provide books and related materials for teaching, research, and cultural purposes. It endeavors to maintain well-balanced collections in all subject fields included in the curricula of the University. Although primarily intended to supply the needs of the faculty and students of the University, the collections are available to any resident of West Virginia through the Library Extension Service Department. Facilities are available for the reproduction of material by microfilm and photostat.

The Main Library's holdings include over 370,000 books and government documents, 29,000 maps, 10,000 pamphlets and other uncataloged items and 6,000 reels of microfilm. About 2,200 periodicals are received currently. The West Virginia Collection contains three million pieces consisting of manuscripts, books, papers, and county court records relating to the history and development of the State. The Library is a depository for the United States Atomic Energy Commission. The Audio-Visual Department has 1,500 educational motion-picture films and 500 filmstrips available to members of the University and to groups throughout the State, and a collection of 3,000 musical and speech recordings for campus use. The Medical Center Library, located in the Basic Sciences Building, contains approximately 38,000 volumes and receives over 600 current periodicals. These titles appear in the catalog of the Main Library and are available to all members of the University community. The Law Library, housed in the College of Law, contains approximately 60,000 volumes.

During regular sessions, except on holidays and vacations, the Library is open from 7:55 A.M. to 10:00 P.M., Monday through Friday; from 7:55 A.M. to 5:00 P.M. on Saturdays; and from 2:00 P.M. to 5:00 P.M. on Sundays. During the Summer Session the weekday hours are from 7:55 A.M to 9:00 P.M.; and only the Reserve Collection is available on Sundays from 2:00 P.M. to 5:00 P.M. During periods when the University is not in session, the hours are from 9:00 A.M. to 5:00 P.M. Monday through Friday; 9:00 A.M. to 12:00 noon Saturdays; closed all day Sundays and holidays. Alterations in scheduled hours are posted in advance.

University Extension

The work of this division is under the general supervision of the Director of University Extension. The work given in extension courses corresponds in every particular to that given in the same courses on campus. Students taking extension courses for credit must satisfy all requirements for admission to the University and, before registering, must file with the Registrar of the University complete official transcripts of record.

The maximum undergraduate credit that may be counted toward any degree for extension work conducted by the University is 48 semester hours. The maximum undergraduate credit that may be counted towards a degree for extension work taken in other institutions is 30 semester hours. No more than 15 hours of work taken in graduate extension courses may be counted towards any degree, and of these only 8 semester hours may be in one field. Education majors are limited to 12 semester hours that may be counted toward the completion of the Master's Degree. No more than 8 of these hours can be taken in extension prior to earning 6 hours in Education in residence in the University. For other regulations on graduate extension for Education majors see the *Announcements* of the College of Education or the Education section of this *Catalog*.

No University extension courses may be offered for credit without the approval of the Director of University Extension. Library and laboratory facilities for each course must be approved by the Director and, in case of courses for graduate credit, by the Dean of the Graduate School. Reference books for the use of extension students may be borrowed from the University Library upon the order of the Director of University Extension, subject to the approval of the Library Committee. Postal charges must be paid by the individual or groups for whom the books are borrowed.

A fee of $12 per semester hour, which includes the new Registration Fee of $4.00 per semester hour imposed by law effective June 1, 1959, is charged for each extension course offered.

For further information write to the Director of University Extension.

Guided Reading Course—Correspondence

The Extension Division of West Virginia University offers six reading courses through correspondence. While these courses are offered in cooperation with the

West Virginia Federation of Women's Clubs, any adult may enroll for any of these courses by applying to the Director of University Extension. The fee is $1 per course. The reader sends in short reports on the books he reads in each course. When the course has been satisfactorily completed, a progress card from West Virginia University Extension Division is awarded. These courses carry no University credit but are designed to provide adults with some of the best reading materials in the areas covered through this program. At present the courses include:

1. World Affairs
2. Modern America
3. Psychology for Everyday Living
4. Happy Family Relationships
5. Novel and Biography
6. Ideas in Conflict

University Book Store

The University Book Store, located between the Law Building and the Physics Building, with entrances from both University Avenue and Hunt Street, is owned and operated by the State for the use and benefit of students, staff, and University offices. The objective of the store is to supply the student, at the lowest practical cost to him, with all books, supplies, and specialized equipment he is required to have in connection with his class work.

The Book Store sells new and used textbooks to students at special student discounts and buys back used books from the students; it sells school supplies, general stationery items, medical and engineering instruments, physical education uniforms for men and women, and University-seal souvenirs and items of wearing apparel.

The University Book Store operates a branch store on the Medical Center Campus, located on the ground floor of the Basic Sciences Building. A stock of professional, medical, and dental books is maintained, along with specialized instruments and supplies required in the medical and dental courses. In addition to the professional stock carried, general book, suppply, and souvenir items are available.

Cafeteria

The Cafeteria is open for three meals daily except Saturday and Sunday. Dinner is not served on Saturday except on special occasions such as Homecoming Weekend and Greater West Virginia University Weekend. Only the noon meal is served on Sunday.

The Cafeteria observes all University holidays, and opens and closes with the University schedule.

ASSOCIATED INSTITUTIONS

West Virginia Academy of Science

Organized in 1924 to bring about closer affiliation among scientists of the State and to encourage the pursuit of scientific work throughout the commonwealth, the West Virginia Academy of Science is a body of nearly five hundred men and women who are interested in the service of science in the development of the State. Members are widely distributed throughout West Virginia and adjoining states and are representative of colleges, high schools, and industries. A Collegiate Academy and a Junior Academy are sponsored by the Senior Academy. Annual meetings, held at the various institutions of higher learning, are divided into sections on biology, chemistry, geology and mining, mathematics and physics, education, psychology and social sciences. The *Proceedings* of the annual meetings are published under the auspices of the University and the Academy.

West Virginia Geological and Economic Survey

The West Virginia Geological and Economic Survey, situated at West Virginia University, is governed by its own commission and receives separate appropriations.

The Geological Survey was founded by an Act of the Legislature in 1897 and has functioned consistently since that date. It is recognized as one of the leading state surveys.

One of the major purposes of the Survey is to have members of its staff, specialists in their field, investigate all natural resources, and especially mineral resources, of the State and make results of the investigations available to the public in the form of written reports and maps.

Accomplishments of the Survey include geologic and topographic mapping of the State, as well as preparation of numerous special reports on the State's mineral and other natural resources. A new topographic mapping program, using aerial photographs, is well under way.

The professional staff of the Survey is composed of eight geologists, a petroleum engineer, two chemists, an engineer cartographer, and a spectroscopist. There is close cooperation between the Geological Survey and the Department of Geology of the University. Three geologists from the U.S. Geological Survey are assigned here for cooperative studies on ground waters. The large collection of well cuttings and cores on file brings petroleum geologists here to study them.

Government of the Survey is vested in the Geological Survey Commission, composed of the Governor of West Virginia, the State Treasurer, the Commissioner of Agriculture, the President of West Virginia University, and the Director of the Agricultural Experiment Station.

State Road Commission

The Materials Laboratory of the State Road Commission is housed in Engineering Building No. 2 of the University. Its work includes testing of all materials used by the Commission and also research in problems of road construction and maintenance in West Virginia. The State Road Commission and the College of Engineering cooperate on research and development programs.

UNIVERSITY PUBLICATIONS

The following publications are issued regularly at the University:

1. The *West Virginia University Bulletin,* issued monthly during the year. The series includes the *Catalog* of the University and the *Announcements* of the various colleges and schools as well as other occasional publications.
2. The bulletins and circulars of the Agricultural Experiment Station.
3. The circulars of the Agricultural Extension Service, including *Farm Women's Club* leaflets, 4-H *Suggestions, Treasures of the Trail,* and special pamphlets.
4. Agricultural News Service bulletins published weekly by the College of Agriculture.
5. The bulletins of the Engineering Experiment Station and of the School of Mines.
6. The *West Virginia Law Review,* official publication of the West Virginia Bar Association, edited by the faculty of the College of Law.
7. Miscellaneous publications under the title of *Philological Papers* or *Biological Studies.*
8. *The Student Directory,* annual directory of the student body, published by the University Book Store.
9. The annual *Proceedings* of the West Virginia Academy of Science.
10. The West Virginia *Fourth Estatesman,* a quarterly publication edited by the faculty of the School of Journalism.

UNIVERSITY LIFE

STUDENT WELFARE

Director of Student Affairs

The activities of student welfare are under the administration of the Director of Student Affairs. The Director's office is on the second floor of the Administration Building.

Dean of Women

All interests of women students in the University are in charge of a special executive officer of the University, the Dean of Women. The Dean's office is on the main floor of Elizabeth Moore Hall.

Eligibility for Activities

To be eligible to represent the University in public appearances, a student must be enrolled in the University and must meet the eligibility requirements of the department or school in which the activity originates. The records of those students whose status is questionable should check at the Registrar's Office before participation. This checking should be done by the department or school in question.

To hold an elective or appointive office in a duly recognized student organization, a student must be enrolled in the University for at least twelve (12) semester hours, and if in other than his or her first semester in residence, must have maintained a minimum cumulative average of "C," as reported by the Registrar's Office, at the time of election or appointment.

Eligibility for participation in intercollegiate athletics is explained on page 26.

Student Government

University Student Government was reorganized in 1952 under a new constitution providing for three separate departments of government activity: the Student Legislature, the Student Executive Council, and the Student Court.

The Legislature, composed of elected representatives from all colleges and schools, determines policy and exercises control over all student activities proposed by the Executive Council, the administrative body which includes the president and vice-president of the student body, and the president and vice-president of each class. The Court, composed of seven students, handles constitutional revisions and controversial issues of the Legislature and Executive Council.

Student Government sponsors many educational and entertaining activities, and coordinates the work of its committee system and of various campus organizations. Besides providing valuable experience in democratic self-government, Student Government represents the student body with the faculty, administration, and off-campus groups.

Associated Women Students

All women students of the University are members of Associated Women Students. The purpose of this association is to regulate all matters pertaining to the student life of its members; to further in every way a spirit of friendliness and unity among the women of the University; to increase their sense of responsibility; and to be a medium for maintaining high scholastic and social standards.

Responsibility for directing the work of the Association rests with the Executive Council, which is composed of the following members: a president, two vice-presidents, a secretary, a treasurer, and a representative from each class. The officers are elected annually by the Association. To be eligible for membership on the Executive Council, a woman must have no less than a "C" average in all her work.

In 1921 the Association was admitted to active membership in the intercollegiate Association of Student Government for Women Students.

Mountainlair

Mountainlair, the student center, was opened on May 14, 1948, to provide members of the University with a general recreation and service center.

Situated at the Northeast end of Mountaineer Field, the student center contains a large combination snack bar-cafeteria, four bowling alleys, a lounge with television and radio, meeting rooms, office space, and a huge ballroom which doubles as a game room. A smaller upstairs ballroom is used for small dances, movies, meetings, etc.

At the Information Desk service is the keyword. In the role of campus information center this booth renders many worthwhile services to convenience the University community.

The Mountainlair Swimming Pool was opened in August, 1951. The pool is of regulation intercollegiate size, and in addition to providing recreational swimming opportunities for University personnel, it serves as the home of the University's swimming team.

The Mountainlair staff devotes its full time to creating and maintaining a pleasing atmosphere for students' leisure-time activities and to setting up an adequate program designed to fit many individual needs of students on campus. The activities are planned by the students with the coordination of the Program Director.

The building is open from 7:30 A.M. to 10:30 P.M. Monday through Thursday, 7:30 A.M. to 11:30 P.M. Friday and Saturday, and 2:00 P.M. to 10:30 P.M. Sunday.

LIVING ACCOMMODATIONS

The University maintains four residence halls, one for men and three for women. For information as to accommodations and rates, address the Office of the Director of Residence Halls.

The following rules are in effect:

No student will be permitted to live in other quarters until after Men's Hall and the residence halls for women are fully occupied.

In assignment of rooms in these buildings all freshmen shall be required to take rooms therein, no freshman being allowed to live outside the residence halls if there is room in them.* In enforcing the above rules the following exceptions shall be made:

(1) When the parents or legal guardians of students reside in Morgantown or within commuting distance of the University, these rules shall not apply.

(2) When the home of the student is within such distance that it is entirely practicable for him to live in his home and reach the University by car or otherwise for all his classes, these rules shall not apply.

A student who does not claim exemption for the fall semester to live with relatives cannot claim exemption for the second semester unless the parents in the meantime have moved to Morgantown.

(3) When students above the rank of freshman reside in approved sorority or fraternity houses under the supervision of the Director of Student Affairs and the Dean of Women, these rules shall not apply.

(4) When conditions of employment (such as firemen in various buildings and homes, employment on dairy and experimental farms, etc.) require residence on the premises, these rules shall not apply. Students so employed should not request reservations for resident space.

When space is needed for underclass women, no senior sorority woman will be permitted to live in Woman's Hall if there is room for her in her sorority house.

Because of the shortage of residence space, rooms are assigned only to students whose homes are in West Virginia. Assignments are for the entire academic year. Students cannot be released at the end of the first semester to live elsewhere.

More detailed information may be found in the *Residence Halls Bulletin,* a copy of which will be furnished by the Director of Residence Halls.

Board and lodging for women graduate students is available in private dwellings in Morgantown. Board and lodging for men also is available in private dwellings. Men may secure information concerning living accommodations in towns by visiting the Information Desk, Administration Building (first floor). Women may secure information concerning approved living accommodations in town by visiting the Dean of Women, Elizabeth Moore Hall. Arrangements for renting a room must be made in person with the landlady or landlord.

PHYSICAL EDUCATION AND ATHLETICS

General Program for Men and Women

All students entering the University with less than 58 semester hours of college credit are required to complete certain courses in physical education, unless previous credit is allowed. All men students take two hours of physical education courses, Phys. Educ. 1 and 2, during their first year of residence. All women students take four hours of physical education courses, selected with the adviser's approval from Phys. Educ. 3 - 25, during their first two year's of residence. Upper-division women students who wish to elect a Physical Education course or who have not completed the physical education requirements should select Phys. Educ. 101 or Phys. Educ. 102. See Part II for more extended information on the course offerings of the School of Physical Education and Athletics.

Each student who is required to register for physical education is given a complete

*In residence halls for women, rooms are assigned to freshmen, sophomores, juniors and seniors.

medical and physical examination at the beginning of the University school year to determine his fitness for active participation in University activities of any description.

Intramurals

A board intramural sports program for men and women is provided by the School of Physical Education and Athletics. It is the aim to encourage all students of the University to participate in organized athletic sports and wholesome active recreation. Competition is promoted between student groups and individuals. Such natural groupings as classes, fraternities, sororities, dormitories, and other nonfraternity units form the basis for activities in competitive sports.

The following activities are conducted for men in the Intramural program: speedball, tennis, volleyball, handball, basketball, swimming, relays, golf, bowling, archery, basketball free throwing, softball, horseshoes, and outdoor track. Other activities may be organized when there is sufficient interest on the part of students and when facilities permit. Leagues are organized to accommodate fraternities, residence halls, and nonfraternity groups.

The following acitvities are conducted for women: volleyball, badminton, swimming, basketball, bowling, softball, table tennis, shuffleboard, archery and tennis. Interclass tournaments for Physical Education majors are held in the following activities: volleyball, badminton, basketball, swimming, tennis, and softball. As the demand for more activities develops and when facilities become available, the program will be broadened.

Health, physical development, and the development of skills in the dance and in swimming are the aim of two organizations, *Orchesis* and the *Dolphin Club*. Open to all University students who can pass the course and skill requirements, these two organizations include among their activities the writing and production of dance and water shows for the entertainment of all members of the University community.

INTERCOLLEGIATE ATHLETICS

Basic Objectives

The basic objectives of Intercollegiate Athletics at West Virginia University are:

1. To provide an opportunity for students highly skilled in athletic sports to develop their ability as a preparation for coaching positions, as teachers of physical education, and for their own physical, social and emotional improvement.

2. To develop an understanding and an appreciation of the place which intercollegiate sports occupy in American culture and to develop sound, educational attitudes toward sports.

3. To educate the student body in the appreciation of sports and the best way to enjoy them from the point of view of good sportsmanship.

4. To serve as a focal point for the morale, spirit and loyalty of the students of the University, by providing a common meeting ground and enthusiasm which is shared by all.

5. To provide a wholesome program of sports in which students, alumni, and friends of the University may share, to the end that the loyalty of these groups to the University and its work may be constantly renewed, strengthened, and united.

Additional Objectives

Additional objectives of the Intercollegiate Athletic program are:

1. To set desirable examples of good physical skill, team play, sportsmanship, health habits, and other characteristics that go with skilled sports, both individual and team.

2. To provide a living laboratory and democracy in action, where all players are treated without favor or prejudice, to learn to respect the rights of others, obey the rules, and judge others for what they can do.

3. To broaden the social experience of players and spectators, through travel, visiting other schools, and making the acquaintance of other young people of similar age.

Administration

Activities of the Department of Intercollegiate Athletics are administered, under the President of the University, by the Director of Intercollegiate Athletics and by the Athletic Council. The council is composed of seven members: four faculty, two alumni, and one student. The Dean of the School of Physical Education and Athletics serves as a member, and the Director of Athletics is the executive officer.

Instruction and training are given each year is the seasonal sports such as football, cross-country, basketball, wrestling, baseball, swimming, gymnastics, track, tennis, rifle, and golf. Matters concerning athletic eligibility regulations are decided by the Athletic Council and scholastic eligibility regulations are established by the faculty of the University.

Athletic Eligibility Regulations

The rules and policies of the Southern Conference govern participation in intercollegiate athletics. In addition, the following regulations are in effect. Sophomores must have a 1.5 grade-point average, juniors a 1.7 average, and seniors a 1.9 average.

THE UNIVERSITY HEALTH SERVICE

The University Health Service, which is a part of the organization of the School of Medicine, is maintained to provide medical care to students of the University and to supervise general health conditions on campus. The staff includes four full-time and three part-time physicians, six nurses, four laboratory technicians, and clerical personnel. The University Pharmacy, housed in the Health Center, is managed by the School of Pharmacy. The Departments of Pathology and Bacteriology cooperate in the laboratory examination of diagnostic materials.

The Health Service occupies a well-designed University Health Center constructed in 1942. This three-story building is centrally located on campus, fronting on College Avenue adjacent to Reynolds Hall. It is built of brick and concrete and is fireproof throughout. On the first floor are the treatment rooms, offices, and pharmacy. The second floor is occupied by laboratory and X-ray departments, and offices for physicians. The third floor contains a well-equipped infirmary.

The Health Service is in operation from 8:00 A.M. to 5:00 P.M. daily except Saturday and Sundays. Saturday hours are 8:00 A.M. to noon. Physicians are in attendance from 9:00 A.M. to 12:00 M. and 2.00 P.M. to 4:00 P.M. A nurse is present at all times in the Infirmary, and a University physician can always be reached by calling the Health Service, Extension 323 on the University exchange.

Each regularly enrolled University student pays a fee which provides for medical consultation and advice from University physicians. Moderate additional charges are made for room calls, X-rays, laboratory tests, minor operations, treatment of fractures, and drugs furnished by the Health Service or Pharmacy.

On his first enrollment in the University a student receives a complete physical examination which includes a blood test and urinalysis. The Health Service also gives special physical examinations to students in competitive athletics, to University food handlers, to employees of the Buildings and Grounds department, and to other groups as occasion may arise.

University Infirmary

Students who need bed care for medical illness are hospitalized in the University Infirmary. The Infirmary is open only to full-time students of the University. It is the policy of the Health Service to have all students requiring such care in the Infirmary, and they will not ordinarily receive continued care elsewhere. Students hospitalized in the Infirmary are under the care of Health Service physicians, although other qualified physicians may be seen in consultation when necessary. Patients will be admitted and discharged on the order of Health Service physicians.

Upon admission to the Infirmary the student receives two days of hospitalization without charge except for laboratory, X-ray, special medications, and private duty nurse fees. No additional charge is made for general nursing care, dressings, routine medications as commonly supplied by the Health Service, and food as ordered by the physician in charge. Laboratory examinations, X-rays, penicillin, and similar medication will be charged at the usual Health Service rate to students. Special nurses, when necessary, are at the expense of the student.

A student may not receive more than thirty days hospitalization for any one illness. Patients are to leave when discharged by the University physicians. When it becomes evident that a student's illness will be so prolonged as to prevent his completing work of the current semester, he may be discharged from the Infirmary when the attending physician or the Director of the Health Service considers that he may be moved without undue danger to his health. The services as indicated above are subject to the availability of space in the Infirmary. Twenty-two beds are at present ready for use.

Speech and Hearing Rehabilitation Clinic

The Speech and Hearing Rehabilitation Clinic, which is operated under the direction of the Department of Speech, offers services to all students of the University in need of treatment for various types of speech disorders such as stuttering, cleft palate, aphasia, spasticity, deafness, hard-of-hearing, etc. All work is in charge of a professionally trained and fully qualified speech clinician who has been certified for this type of work by the American Speech and Hearing Association. The clinic is located in the specially designed set of rooms which permit private as well as class instruction, the use of soundproof cubicles, modern equipment for diagnosis and therapy, and opportunities for supervised and directed help in overcoming speech handicaps.

UNIVERSITY ACTIVITIES

Social

Student social life in the University is a carefully planned and supervised part of a student's life on campus. It is guided in such a manner as to offer a wholesome type of pleasure without curbing the institution's main purpose . . . education of the student.

All social life is under the general supervision of the University Social Committee. The committee has supervision of every social function given by the University or by an organization within it, including fraternities, sororities, and other student societies.

The social program is highlighted during the year by Homecoming Weekend, Mountaineer Weekend, Greater West Virginia Weekend, and Graduation Week. The Homecoming Parade held during Homecoming Weekend is an annual tradition. The Homecoming Dance, of course, is the climax of the celebration. Mountaineer shenanigans on a special fall weekend, set aside by the students, is the most newly established annual affair. Mountaineer garb, in its truest fashion, prevails at all activities for the two-day program, including classes on Saturday morning. Mountaineer music, hayseed hoedowns, and other attractions provide everyone with a gala time.

Other major dances include the Military Ball, Engineers' Ball, and Gold-diggers Ball.

Aside from these major social attractions, there are many others scheduled for weekends throughout the year. A number of these activities are sponsored by individual organizations; some have a limited attendance and others are all-campus affairs.

SOCIAL CENTER FOR WOMEN

On the upper campus, opposite Reynolds Hall, is Elizabeth Moore Hall, named after the preceptress of the former Woodburn Female Seminary. The building provides for social, recreational, and physical education facilities for women students. The building is so arranged that facilities for social gatherings constitute a separate unit.

Cultural

The University, through the Committee on Convocations and Public Exercises, provides appropriate and desirable programs for students. The convocations form the basis of the cultural program, but there are others sponsored by various divisions of the University and community.

Convocations consist of addresses by distinguished speakers, and musical and other entertainment features of special merit.

During the year students have an opportunity to attend their own legitimate theatre in which plays are presented by the Speech Department. University Radio Theatre is also an activity of the Speech Department.

The University Symphony Orchestra concert, individual recitals, and glee club concerts are sponsored by the School of Music.

The Community Concert Series is another fine opportunity afforded to students.

A broad student fellowship program is available at the many churches in the community and a special week is set aside annually as Life Week to emphasize the religious phase of student life.

Greater West Virginia University Weekend makes a number of cultural activities available to students and their visiting parents. A modern dance recital, music recitals, religious services, and educational scientific exhibits are of the highest value.

Forensic Activities

The University maintains a complete forensic program under sponsorship and direction of the Department of Speech. Intramural and intercollegiate activities in debate, oratory, and extemporaneous speaking are included. Speech tournaments, trips, and tours, as well as campus contests, make up the program. Participation may lead to membership in Delta Sigma Rho, national honorary forensic fraternity, and is open to any regularly enrolled student in the University.

University Players

The University Players, sponsored by the Department of Speech, presents a full program of major productions, open to the public, each year. In recent years such plays as *Goodbye, My Fancy; Our Town; Midsummer Night's Dream;* and *Room Service* have been given. A program of one act plays performed in the studio theatre atmosphere is produced each year by students enrolled in theatre courses. Tryouts for casts of all plays are open to any regularly enrolled student in the University. Membership in Alpha Psi Omega, national honorary dramatic fraternity, may be earned by superior work in such productions.

University Broadcasting

Broadcasting of radio programs to the people of West Virginia was established at the University in May, 1938, when Station WMMN, Fairmont, began a series of noncommercial programs originating on the campus. All are of an educational, informative, or entertaining nature. In addition to these programs, special events have been broadcast regularly by a group of West Virginia stations as well as by stations in other states.

The University is prepared to open its doors to all West Virginia stations that wish to broadcast special campus events.

University Radio Theatre. The University's broadcasting facilities are housed in the Administration Building and their use is under the supervision of the Department of Speech. Facilities include studio and control room fully equipped for broadcasting except for the lack of a transmitter. At present the University has no permit for a transmitter. However, the Department of Speech produces fifteen-minute and half-hour tape-recorded broadcasts participated in by students and faculty for release to radio stations throughout the State.

Radio Journalism. Students in the School of Journalism study radio to become proficient in use of radio as a news medium.

Religious Foundations and Associations

Foundations

As at most state colleges and universities, various state and national church boards have established foundations at West Virginia University for the religious education and nurture of students. The churches of Morgantown extend a warm welcome to students of all faiths. The physical plant and equipment of each church is available for social, educational, and recreational activities of students.

The *Baptist Student Fellowship* headquarters are at the Baptist Student Center, 640 N. High Street, under the direction of the Rev. Elmer E. Dierks, student pastor.

The program includes participation in Bible School, worship services of the church, B.S.F., and service in mission churches in nearby districts. Student activities are democratically organized and depend in large measure on student initiative and leadership.

Newman Hall, 1481 University Avenue, is the social and religious center established by the West Virginia Diocese of the Roman Catholic Church for students of that and other faiths. Rev. Father Joseph Flynn is the resident chaplain. Newman Hall is a beautiful building of English collegiate architecture immediately adjacent to the campus. It is equipped with dormitory facilities for twenty students and also includes a chapel, dining room, lounge, game room, and library.

The *Disciple Student Foundation* provides a program for Christian Church students attending West Virginia University. The Foundation is sponsored by the Department of Religious Education of the United Christian Missionary Society at Indianapolis, Ind., the West Virginia Christian Missionary Society at Huntington, and the First Christian Church at Morgantown. These three agencies function through a Student Work Advisory Committee. The First Christian Church is the center for Foundation activities and is located on Grand Street at Cobun.

Trinity Church, at Spruce and Willey Streets, is the center for student work sponsored by the Diocese of West Virginia of the Protestant Episcopal Church. This work is under the direction of the rector, the Rev. Mr. Donald Rogan. The program includes student worship services and meetings of the Canterbury Club, a chapter of the National Association of Canterbury Clubs, for discussion and fellowship. Canterbury Club meets in Strider Hall, which is located on the ground floor of Trinity Church.

The *Hillel Foundation* at West Virginia University, 1420 University Avenue, represents the combined efforts of the West Virginia B'nai B'rith Lodges and of the National B'nai B'rith Hillel Foundation to bring the University's students together in religious, cultural, and social activities. Prominent lecturers and speakers are featured at regular intervals by the Foundation for the members of the group and for the general student body. Rabbi Bernard A. Silverblatt serves as director of the Hillel Foundation.

St. Paul's Lutheran Church is the center of Lutheran student activities sponsored by the Student Service Commission of the National Lutheran Council, the Synod of West Virginia, and St. Paul's Lutheran Church. The work is under the direction of the Rev. Richard Rife, local pastor. The program includes regular services of the church and activities of the Lutheran Student Association.

Wesley Foundation is housed in the Wesley Youth Center at 503 High Street and provides a worship and activities center for Methodist students in the University. Complete facilities for recreation, feeding, drama, and various religious meetings are provided as an integral unit of Wesley Methodist Church. The students are organized into a working cabinet, and carry forward a religious education program consisting of worship, study, fellowship, community service, mining camp missions, and other extension activities. The program is under the direction of the Rev. Aldred P. Wallace, pastor of Wesley Church, and the Rev. David M. Riffe, assistant director of the Wesley Foundation. The Foundation sponsors Kappa Phi, Methodist women's sorority, and Sigma Theta Epsilon, the fraternity for Methodist college men.

The *Westminster Foundation* of West Virginia represents the cooperative efforts of the Boards of Christian Education and National Missions of the Presbyterian Church, U.S.A., the Synod of West Virginia of the Presbyterian Church, U. S., and the Presbytery of Winchester, to make the Christian religion a vital factor in the experiences of students and in the relationships which these students sustain while in the University; and also, through guided Christian activities in the mine-camp communities surrounding Morgantown, to train among educated men and women future Christian statesmen. The Rev. William C. Swartz, 331 Forest Avenue, is the student pastor and director.

Other churches, while not having special buildings or workers for University students, make definite contributions in ministering to the religious and social needs of University students who belong to their particular faiths. It should be stated in this connection that college students are welcome in all of our churches regardless of what their church affiliations may be.

Associations

The *Young Men's Christian Association* of West Virginia University is a nonsectarian fellowship of students and faculty united in the desire to encourage personal and social development in the light of religious principles. The *Young Women's Christian Association* is a nonsectarian fellowship of women of the University organized for the purpose of promoting and directing widely varied activities through a religious motive. Both Associations are affiliated with their national and international bodies and with the World Student Christian Federation.

Student officers, student cabinets, boards composed of students, faculty, and townspeople, and an executive secretary direct the activities. The various committees, interest groups, and commissions provide not only their immediate ends, but also opportunity for fellowship and leadership training. The Y.M.C.A. office is located on the third floor of the Administration Building and the Y.W.C.A. office is located on the second floor of Elizabeth Moore Hall.

Musical Organizations

Remission of Fees in the Band or Orchestra

After completing two years in the band or orchestra, especially qualified members of these organizations may continue service in them upon invitation and receive allowances in the form of remission of fees amounting to $30 per semester.

The University Smyphony Orchestra

The University Symphony Orchestra is open to all students, faculty members, and citizens of the community who are proficient in the playing of an orchestral instrument. The repertoire is that of the standard symphony orchestra, with special emphasis on contemporary American music.

The functions of the orchestra are to provide the University and community an opportunity to hear symphonic music, to enable the student to gain orchestral experience, and to serve as a laboratory for student composers, orchestrators, and conductors.

Rehearsals are held each Wednesday evening at 7:30 o'clock in the School of Music building. May be taken with or without credit.

Women's Glee Club

The Women's Glee Club is open to all University women who wish to participate in choral music. The repertoire consists of literature from the finest choral composers, both traditional and contemporary.

The Women's Glee Club presents one concert each semester in addition to other performances on the campus and throughout the State. Voice part assignments are established by audition. One credit may be earned by two semesters' participation. One credit per semester may be earned by singing in this organization and the Choral Union. May be taken with or without credit.

University Choir

The University Choir is open to all students in the University. Personnel are selected by audition. This choir rehearses three times per week. The third rehearsal is with the University Choral Union. One credit hour per semester. May be taken with or without credit.

Men's Glee Club

The Men's Glee Club is open to all University men who wish to participate in choral music. Concerts are given several times throughout the school year on campus as well as out of town. Voice part assignments are established by audition. One credit may be earned by two semesters' participation. One credit hour per semester may be earned by singing in this organization and the Choral Union. May be taken with or without credit.

University Choral Union

The University Choral Union is open to all University students who can satisfactorily sing a part. This organization offers opportunity to participate in the performance of a major choral work each semester. One credit may be earned by two

semesters' participation. One credit hour per semester may be earned by singing in this organization and with the Men's Glee Club. May be taken with or without credit.

The University Bands

The University Bands are composed of students drawn from all classes of the various colleges and schools of the University. The Mountaineer Marching Band provides music and pagentry for athletic events, parades, and the like. The Concert Band gives several concerts each year in Morgantown and nearby cities.

Regular rehearsals are held on Monday, Wednesday, and Thursday afternoons at 5 o'clock in the School of Music building.

STUDENT PUBLICATIONS

The *Daily Athenaeum,* University student newspaper, is published daily Tuesday through Friday, by students of the School of Journalism. Heads of the editorial and business staffs are appointed by the University Committee on Student Publications from a list of eligible students certified by the Director of the School of Journalism.

The *Monticola,* student yearbook of the University, is published by upperclassmen. The editorial and managerial staff is appointed by the University Committee on Student Publications.

"Notes for New Mountaineers," formerly called *Mountain Guide,* and before that *Freshman Handbook,* is published annually under the direction of the University Office of Publications and is distributed to each member of the entering class and to transfer students.

All student publications of general campus circulation are under the supervision of the University Committee on Student Publications.

SCHOLARSHIPS, FELLOWSHIPS, AND GRANTS

Many individuals and organizations who are friends and benefactors of the University and its students have established scholarships for deserving students. Additional information concerning these scholarships may be obtained from the Scholarship Coordinator.

Freshman Scholarships

FOR STUDENTS IN THE COLLEGE OF AGRICULTURE, FORESTRY, AND HOME ECONOMICS

Phi Lambda Upsilon Scholarship. Phi Lambda Upsilon, chemistry honorary society, established in the fall of 1958 a tuition scholarship for a freshman man who is a resident of West Virginia, who has taken the standard statewide test for high school juniors, and who has taken the competitive scholarship examination given by West Virginia University during his senior year. The recipient must major in chemistry, chemical engineering, pharmacy or agricultural science, and must be receiving no other scholarship or fellowship through University offices.

Sears Roebuck Foundation Agricultural Scholarships. A grant of $2,250 from the Sears Roebuck Foundation of Chicago makes possible the awarding of 10 scholarships each year to deserving men enrolling as freshmen in agriculture or forestry, and to one sophomore in these fields. The freshman grants are of $200 each, the sophomore grant of $250.

Southern States Cooperative Scholarship. Established in 1957, this award is made annually to a freshman in agriculture or forestry, the son of a Southern States Cooperative member, a resident of West Virginia, who has two or more years' experience in 4-H or F.F.A. work. The grant is in the amount of $1,200, payable at the rate of $300 yearly.

Standard Oil Company of New Jersey Scholarship. In 1947 the Standard Oil Company of New Jersey provided a four-year scholarship of $200 per year to a man in 4-H Club work in West Virginia. Selection is on the basis of need and ability.

Kroger Company Scholarships. The Kroger Company will give two scholarships of $250 each to students in agriculture or forestry. Awards are made on the basis of scholarship, and leadership in school, church, F.F.A., F.H.A., 4-H Club, and other youth activities.

Danforth Foundation Agricultural Leadership Training Scholarship. A $50 scholarship at the American Youth Foundation Leadership Training Camp, Stony Creek, Michigan. This award is made to an outstanding agricultural freshman. The award is made jointly by the Danforth Foundation and Ralston Purina Company, St. Louis, Mo. Selection of recipient is made by the Student Aid and Grants Committee of the College of Agriculture, Forestry, and Home Economics.

Gilbert Lumber Company Scholarship in Forestry. Established in the fall of 1956, this scholarship is for the study of forestry as preparation for work with the lumber industry, and carries an annual stipend of $900 for the school year, subject to renewal for a total of four years on the basis of a satisfactory school record for the preceding years, and continued attendance by the recipient. Eligibility is restricted to residents of Mingo, Wayne, Lincoln, Logan, Boone, McDowell, Wyoming, Raleigh, Fayette, Mercer, and Summers counties. Applicants are required to be in the upper 10 per cent of their high school graduating classes, and must accept employment in the lumber industry during two summer vacations while studying at the University.

Rachel Colwell Scholarship. This tuition sholarship was established and is supported by Phi Upsilon Omicron, professional home economics organization. Alumnae and the active chapter cooperate in providing a tuition scholarship to an entering freshman woman who proposes to major in home economics. Selection is on the candidate's high school record, including experience in such organizations as 4-H and F.H.A. It is in the amount of $100.

Kroger Company Scholarships. The Kroger Company will give two scholarships of $200 each to students in home economics. Awards will be made on the basis of scholarship, and leadership in school, church, F.F.A., F.H.A., 4-H Club, and other youth activities.

Sears Roebuck Home Economics Scholarships. A grant of $600 to the Division of Home Economics from the Sears Roebuck Foundation of Chicago makes possible the awarding of annual scholarships to three deserving women enrolling as freshmen in home economics. Individual scholarships amount to $200 per year.

West Virginia Home Demonstration Council Scholarships. These scholarships of $200 are available to three freshman women in the Division of Home Economics. A 2.0 average must be maintained for the second semester in order to retain the scholarship. It is hoped that a good proportion of the recipients will eventually give service to West Virginia by becoming 4-H Club agents or home demonstration agents.

Continental Can Company, Inc. Forestry Scholarship. This scholarship, consisting of $1,000 for each of four years, is awarded to a freshman man enrolled in Forestry. The recipient must be a resident of a county in Virginia in which the Continental Can Company owns land. Selection of the recipient is made by the Company.

West Virginia Dairy Technology Society Scholarship. The West Virginia Dairy Technology Society has established a Scholarship of $300 to be awarded to an entering freshman who intends to major in dairy manufacturing. The recipient is selected by the Committee on Student Aid and Grants of the College of Agriculture, Forestry, and Home Economics on the basis of high school achievement, aptitude, and need.

FOR STUDENTS IN THE COLLEGE OF ARTS AND SCIENCES

Phi Lambda Upsilon Scholarship. Phi Lambda Upsilon, chemistry honorary society, established in the fall of 1958 a tuition scholarship for a freshman man who is a resident of West Virginia, who has taken the standard statewide test for high school juniors, and who has taken the competitive scholarship examination given by West Virginia University during his senior year. The recipient must major in chemistry, chemical engineering, pharmacy, or agricultural science, and must be receiving no other scholarship or fellowship through University offices.

Science Talent Search Scholarship. The Board of Governors of the University and the West Virginia Academy of Science established in 1949 this scholarship which entitles a high school senior to the remission of all fees except those payable to State special funds and those chargeable to special services, as well as a cash award of an amount not less than the total remitted by the University. The recipient is selected by the Academy of Science in accordance with its rules.

Columbia Southern Chemical Corporation Scholarship. This award is in the amount of $4,000, and was established for graduates of Magnolia High School (New Martinsville), or for employees of the Columbia Southern Chemical Corporation plant

graduated from any high school. The recipient must be a candidate for work in chemistry, chemical engineering, mechanical engineering, civil engineering or electrical engineering. The recipient will be selected by the corporation.

Sigma Pi Sigma Scholarship in Physics. Established in 1956 by the local chapter of Sigma Pi Sigma, national physics honorary, this scholarship is awarded annually to a West Virginia high school senior chosen on the basis of tests, academic record, and on the recommendation of his high school principal and science teachers. In order to obtain the scholarship, which pays $150 per year, the recipient must enroll at the University with the intention of majoring in physics.

FOR STUDENTS IN THE COLLEGE OF EDUCATION

Board of Governors Scholarships in Education. In 1954 the Board of Governors established five annual scholarships in education. Each includes four academic years and entitles the recipient to the remission of all fees except those payable to State special funds and those chargeable to special services. Scholarships are awarded to graduating high school seniors who have a desire to become good public school teachers on the basis of scholastic ability and attainment, qualities of good citizenship, evidence of leadership and moral force, and extra-curricular activities. Scholarship holders will register during their first two years in the pre-education curriculum of the College of Arts and Sciences.

FOR STUDENTS IN THE COLLEGE OF ENGINEERING AND MECHANIC ARTS

Associated General Contractors of West Virginia Scholarship. Established in 1956, this scholarship has a stipend of $300 for a freshman in the College of Engineering and Mechanic Arts. Scholars are chosen from applicants on the basis of scholarship, with an aptitude for college and engineering study, and interest in engineering and construction.

Columbia Southern Chemical Corporation Scholarship. This award is in the amount of $4,000, and was established for graduates of Magnolia High School (New Martinsville), or for employees of the Columbia Southern Chemical Corporation plant, graduated from any high school. The recipient must be a candidate for work in chemistry, chemical engineering, mechanical engineering, civil engineering or electrical engineering. The recipient will be selected by the corporation.

International Nickel Company Scholarship. Established in 1956, this award is for a high school graduate interested in engineering (with a preference for the mining, geological or metallurgical fields). It is for four years, and consists of tuition, fees, and a cash sum of $300 annually for books and a portion of the living expenses.

Phi Lambda Upsilon Scholarship. Phi Lambda Upsilon, chemistry honorary society, established in the fall of 1958 a tuition scholarship for a freshman man who is a resident of West Virginia, who has taken the standard statewide test for high school juniors, and who has taken the competitive scholarship examination given by West Virginia University during his senior year. The recipient must major in chemistry, chemical engineering, pharmacy, or agricultural science, and must be receiving no other scholarship or fellowship through University offices.

FOR STUDENTS IN THE SCHOOL OF JOURNALISM

All scholarships in the School of Journalism are given on the basis of ability, scholastic achievement, promise for a successful career in one of the many fields of communications media, and need of financial assistance.

Lewis Baker Scholarships. Two scholarships of $100 each were established in 1945 by the late Mrs. Guy Despard Goff in memory of her father, Lewis Baker (1832-99), who founded the Wheeling Register in 1863. Between 1955 and 1957 these two scholarships were maintained jointly by the late Mrs. Ruth B. Thomas, also a daughter of Lewis Baker, and her son, L. N. Thomas. Following the death of Mrs. Thomas, the two scholarships have been maintained by Mr. Thomas, president of the Carbon Fuel Company, Charleston.

Ogden Scholarships. In 1945 the News Publishing Company, Wheeling, established two $100 scholarships in memory of the late H. C. Ogden, West Virginia publisher.

Charleston Daily Mail-Gazette Scholarships. Two Daily Mail Scholarships of $100 each were established in 1945 by its editor, the late Walter E. Clark, and its pub-

lisher, Fred M. Staunton. From 1945 to 1957 the Mail provided either one or two scholarships each year. In 1958 the scholarships were given by the Newspaper Agency Corporation as agent for both the Charleston Daily Mail and Charleston Gazette. Awards of $100 each will be granted the two students receiving these scholarships.

FOR STUDENTS IN THE SCHOOL OF MINES

The Johnstown Coal and Coke Company Scholarship. The Johnstown Coal and Coke Company, of Johnstown, Pennsylvania, offers an annual freshman scholarship in Mining Engineering for which graduates from high schools in the vicinity of the company's West Virginia and Pennsylvania operations are eligible to compete. The scholarship provides payment of $750 per year, renewable annually for four years on the basis of satisfactory academic performance. Awards are made by the sponsoring company, and participating high schools in West Virginia are Cowen, Chichton, Nicholas County, Richwood and Webster Springs.

Truax-Traer Coal Company Scholarships. In September 1956, the Truax-Traer Coal Company established a four-year scholarship program in Mining Engineering providing two freshman scholarships each year. Scholarships carry an annual payment of $600 plus summer employment and are renewable annually for four years on the basis of satisfactory academic records. Contact the Dean of the School of Mines for further information.

The Semet Solvay Scholarship. The Semet-Solvay Division, Allied Chemical Corporation, Bluefield, West Virginia, established in March, 1952, the Semet-Solvay Scholarship in Mining Engineering. This scholarship is awarded to an outstanding high school graduate who is a resident of West Virginia and who will pursue a course in coal mining engineering and will accept employment in the coal mining industry upon graduation. This scholarship pays $600 per year, and is renewable from year to year upon the basis of satisfactory academic work during the previous year. Inquiries should be sent to the Dean of the School of Mines.

Coal Division, American Institute of Mining, Metallurgical and Petroleum Engineers Scholarship. This scholarship was established for outstanding students in the School of Mines. The scholarship is valued at $400 per year, and may be awarded for a period of four years. Awards are made by the Scholarship Committee of the American Institute of Mining, Metallurgical, and Petroleum Engineers. Inquiries should be addressed to the Dean of the School of Mines.

North American Coal Corporation Scholarships. This grant-in-aid program was established by the Cleveland firm of the same name, and is available to freshmen enrolling in the School of Mines. There is no fixed number of awards, and recipients are selected by the corporation. Grants range up to $900 yearly, and are renewable from year to year on a satisfactory performance basis.

Carbon Fuel Foundation, Inc. Scholarship. A scholarship for the study of mining engineering offered by the Carbon Fuel Foundation, Inc. This scholarship carries an annual stipend of $600 for an outstanding high school graduate, and is subject to renewal for a total of four years on the basis of satisfactory school record for the preceding year and continued attendance by the recipient. The scholar must be a resident of West Virginia, and shall intend to accept employment in the coal mining industry following completion of the prescribed course in mining engineering.

FOR STUDENTS IN THE SCHOOL OF MUSIC

Board of Governors Scholarships in Music. Ten Board of Governors Scholarships in music are available each year for entering freshmen. These scholarships are open to performers on any band or orchestral instrument, as well as to organists, pianists, singers, composers, and theorists. The recipient is entitled to remission of all fees except those payable to State Special funds, which total $16 per semester, and those chargeable to Special Services.

The winner of each scholarship must be a graduate of an accredited high school, and will be expected to enroll in the School of Music in the fall following the awarding of the scholarship, as a candidate for a degree in music.

Each scholarship will include four academic years, provided that the recipient maintains a scholarship record deemed by the Scholarship Committee of the School of Music to be worthy of continuance of the scholarship.

Auditions are held each year in Morgantown on announced dates.

Winners are selected on the basis of musical ability, scholastic record, and personality. For further information address the Dean of the School of Music.

The Woman's Music Club of Morgantown Scholarship. The Woman's Music Club of Morgantown established in 1950 an annual scholarship for the aid of a "talented freshman" in the School of Music. The award has a value of $80 per semester.

FOR STUDENTS IN THE SCHOOL OF PHARMACY

Phi Lambda Upsilon Scholarship. Phi Lambda Upsilon, chemistry honorary society, established in the fall of 1958 a tuition scholarship for a freshman man who is a resident of West Virginia, who has taken the standard statewide test for high school juniors, and who has taken the competitive scholarship examination given by West Virginia University during his senior year. The recipient must major in chemistry, chemical engineering, pharmacy, or agricultural science, and must be receiving no other scholarship or fellowship through University offices.

FOR STUDENTS IN THE SCHOOL OF PHYSICAL EDUCATION AND ATHLETICS

Grace M. Griffin Scholarship. This scholarship for women students, established in 1959 by the School of Physical Education and Athletics, provides $100 a year to be applied to tuition for four years. Selection is made by the faculty of the Department of Physical Education for Women. The money is raised annually from contributions of alumni and friends of the School of Physical Education and Athletics.

FOR STUDENTS IN ANY COLLEGE OR SCHOOL OF THE UNIVERSITY

Victor E. Albright Scholarship. This scholarship is awarded to a man or woman of good character, born and reared in Preston County and graduated from a Preston County high school in the year in which the scholarship is given.

Anonymous Scholarships. In 1956 an anonymous bequest was established for a scholarship fund to be used by worthy West Virginia students. Scholarships will be awarded from time to time to prospective and/or enrolled students on the basis of high school record and character. Scholarships will be for any chosen field of study and awarded from year to year, and renewed only when scholars have shown satisfactory progress. The single exception to these qualifications is that descendants of the testator shall be given first consideration regardless of his or her place of residence. The number benefiting from this grant will vary to as many as six or more.

Claude Worthington Benedum Scholarship. These scholarships will be awarded to 10 worthy West Virginia high school graduates, selected on the basis of a statewide competitive examination, need and other qualifications. They are in the amount of $250 per year.

Board of Governors Achievement Scholarships. In 1945 the Board of Governors authorized the establishment of 25 scholarships to be awarded annually to high school graduates. The scholarships entitle recipients to the remission of all fees except those payable to State special funds and those chargeable to special services.

General Motors Scholarships. The General Motors Corporation in 1955 established a program of merit scholarships in the University. The first two were awarded to outstanding West Virginia high school graduates in the fall of 1955. They are granted for four years, so that by the fall of 1958 eight were in operation. Winners are selected on the basis of high scholarship, character, and potential for college study.

Harrison County Alumni Chapter Scholarship. This scholarship, established in 1950, provides tuition fees to an outstanding Harrison County high school graduate. Selection is made by the chapter.

Helvetia Scholarship. In 1956 Helvetia, sophomore men's honorary, established an annual award of $100 to be applied to tuition for a recipient chosen from the "Ten Top Freshmen" on the basis of financial need.

Leyenberger Scholarship Fund. This scholarship was established in 1956 in the memory of a Wheeling Presbyterian minister and his wife. The invested earnings of the original gift of $1,000 (established in the West Virginia University Foundation) are set aside for an annual scholarship grant to a worthy and outstanding student enrolled in the University. The exact value of the grant will vary, and the stipend is awarded on a year-to-year basis.

Loyalty Permanent Endowment Fund of the W.V.U. Alumni Association. This fund, an irrevocable trust with earnings pledged to University purposes, including

scholarships, was established by the Alumni Association in 1937. Its principal is derived from contributions by alumni and other friends of the University; and it is administered by a self-perpetuating trust committee composed of three alumni, with the Kanawha Valley Bank of Charleston serving as trustee. During each academic year, this fund supports several University scholarships, all outright gifts of cash to deserving students with no obligation to repay other than a moral one at such time as the recipient feels he is financially able to contribute. An average of about eight students are aided by the program yearly.

Olin Mathieson Employees' Scholarship. The employees of Olin Mathieson Chemical Corporation (Morgantown Plant) has established a scholarship fund in West Virginia University for the purpose of giving aid and encouragement to children and/or grandchildren of former employees of the Corporation's Morgantown Operation wherever they may now reside, to secure college training in any chosen field of study. The value of this scholarship is $200, and the recipient may continue to receive such grants from year to year for four years if academic and character standards of the University are met. The recipient will be chosen by the University, and selection of applicant will be made on basis of 1) ability to do college work, 2) character and personality, and 3) need for financial assistance to attend college. Candidates from any undergraduate class rank may be considered. In case no candidates are available from families of employees for a period of three consecutive years, the University is free to select other worthy recipients who may qualify under the above conditions.

John Barton Payne Scholarships. A bequest from the late John Barton Payne, Taylor County native and former president of the American Red Cross (who lived in Kingwood and practiced law in Preston County), gave the University a sum of $12,000, income from which is to be used to aid two young men—one a native of Taylor County and the other a native of Preston County—to attend the University. Financial need and scholastic merit are prime considerations in selecting recipients for this four-year scholarship.

The Deem Rahall Memorial Scholarship. The Rahall family of Beckley established in 1951 a freshman scholarship in the University in memory of Deem Rahall. The scholarship is for an outstanding and worthy graduating senior in Woodrow Wilson High School who desires to attend the University. The annual stipend, awarded for the freshman year only, amounts to $250.

Myrtle Mae Sloan Scholarship. This scholarship was established in 1955 by Miss Viva O. Sloan of Morgantown in memory of her sister. The invested earnings of the original gift of $5,000 (established in the West Virginia University Foundation) are set aside for an annual scholarship grant to a worthy and outstanding student at the University. The exact value will vary, and the stipend is awarded on a year-to-year basis.

George E. Stifel Scholarship. Several years ago there was established in Wheeling a trust fund known as the George E. Stifel Scholarship Fund, the object of which is to help deserving graduates of the public schools of Wheeling to obtain college educations. As many as four University students have received aid from this fund simultaneously.

West Virginia Interscholastic Forensics Scholarships. In 1950 there were established five University scholarships, two in debate, and one each in oratory, extempore, and interpretative reading, to be awarded annually to graduates of West Virginia high schools. These scholarships entitle the recipients to the remission of all fees except those payable to State Special funds or chargeable to Special Services. Awards are made by the Department of Speech at the finals of the West Virginia Interscholastic Forensic Program on a date to be announced. Each scholarship remains in effect for four years unless revoked for disciplinary reasons, for failure to maintain scholastic standards, or for withdrawal from the University.

State High School Drama Festival Scholarships. In January, 1953, the Board of Governors of West Virginia University created the State High School Drama Festival Scholarships. Three grants are awarded annually to high school seniors who participate in the finals of the State High School Drama League, held annually at the University campus. Selection is made by a board of judges composed of members of the Department of Speech and those chosen receive remission of all fees for four years except those payable to Special Funds and those chargeable to Special Services. For information regarding participation in the Drama Festival, write to Executive Secretary, State High School Drama League, Department of Speech, West Virginia

University, Morgantown, West Virginia.

State High School Forensic Tournament Scholarships. The present five scholarships awarded to high school seniors who participate in the annual state finals of the Interscholastic Forensic Tournament had their origin in a Board of Governors order of February, 1950. A board of judges composed of staff members of the Department of Speech select the five outstanding seniors in the tournament as recipients of these scholarships, which carry remission of all fees, except those payable to the State Special Funds and those chargeable to Special Services, for four years. For information regarding participation in the annual Tournament, write to Executive Secretary, Interscholastic Forensic League, Department of Speech, West Virginia University, Morgantown, West Virginia.

Upperclass Scholarships

FOR STUDENTS IN THE COLLEGE OF AGRICULTURE, FORESTRY, AND HOME ECONOMICS

Andrew Delmar Hopkins Scholarship in Entomology. This scholarship, established in 1954, is in memory of an internationally known entomologist, for many years director of the W.V.U. Experiment Station. It is for $200 per year and is awarded to a worthy senior or graduate student with an interest in entomology, who has demonstrated originality and research ability.

KDKA Agricultural Scholarship. This scholarship is in the amount of $100 yearly, and is made to a junior or senior in agriculture to recognize outstanding leadership, to encourage the use of radio in disseminating agricultural information, and to help train students in broadcasting techniques. It is sponsored by Radio Station KDKA, Pittsburgh.

Ralston Purina Company Scholarship. The Ralston Purina Company of St. Louis established in 1955 an annual scholarship for an outstanding student in agriculture. The stipend amounts to $500 a year.

West Virginia Dairy Products Association Scholarships. This association offers three $250 scholarships each year. Applicants must be sophomores majoring in dairy manufacturing.

Sears Roebuck Foundation Agricultural Scholarships. A grant of $2,250 from the Sears Roebuck Foundation of Chicago makes possible the awarding of 10 scholarships each year to deserving men enrolling as freshmen in agriculture or forestry, and to one sophomore in these fields. The freshman grants are of $200 each, the sophomore grant of $250.

Phymosia Garden Club Scholarship. In 1954 the Phymosia Garden Club of Beckley started a special scholarship in support of conservation education and related to the Division of Forestry. A scholar is named annually by the club itself and awarded a grant of $100.

FOR STUDENTS IN THE COLLEGE OF ARTS AND SCIENCES

American Viscose Corporation Scholarship. The American Viscose Corporation of Marcus Hook, Pa., established in 1953 an undergraduate scholarship for a junior or senior majoring in chemistry or chemical engineering. The annual value of the scholarship is $500, and alternates between students in the College of Engineering and Mechanic Arts and the College of Arts and Sciences.

R. M. Davis Scholarship in Political Science. R. M. Davis, Morgantown coal operator, has given the University the sum of $5,000 to establish a scholarship in the Department of Political Science. The scholarship, with an average value annually of between $300 and $500, is granted to an undergraduate or graduate student whose specialty is international relations. Scholastic standing and qualities of leadership will be given primary consideration.

Charles B. Jolliffe Scholarship. The Radio Corporation of America in 1952 established the Charles B. Jolliffe Scholarship in honor of the director of R.C.A., an alumnus. The scholarship, valued at $800 per year, is awarded to an outstanding undergraduate student who has elected to major in chemistry, mathematics, or physics.

Mead Corporation Scholarship. This scholarship was established in 1956 by the Mead Corporation of Dayton for aid to a worthy student in science or engineering. It carries a stipend of $300.

Morgantown Community Players' Scholarships. These scholarships (generally four in number) were established in 1955. They are for University students partici-

pating in Department of Speech activities and/or courses with the following selection priorities: (1) a citizen of the Morgantown area; (2) a citizen of the State of West Virginia; (3) a non-resident student. These students shall be chosen on the basis of talent, industry, and academic achievement during their freshman and sophomore years. Their names are then approved by the Morgantown Community Players. The scholarships are paid during the recipients' junior and senior years in the sum of $100 during each of the two years.

The Morgantown Service League Scholarship. This scholarship provides $200 a year for a full-time student in the Department of Social Work. The recipient must be a resident of West Virginia, and must be approved by the Head of the Department of Social Work.

The West Virginia Federation of Women's Clubs Scholarship in Social Work. This scholarship provides $150 a year and is awarded to a full-time student in the Department of Social Work. The recipient, selected by the Head of the Department, must be a resident of West Virginia.

FOR STUDENTS IN THE COLLEGE OF COMMERCE

West Virginia Consumer Finance Association Scholarship. This association established in 1946 an annual scholarship of $150. This scholarship is for the aid of an outstanding and needy University student who is a resident of West Virginia. In 1953 the association specifically designated this scholarship for the use of an outstanding student in the College of Commerce. Recipients are chosen on the basis of character, academic achievement, and general campus activities.

FOR STUDENTS IN THE COLLEGE OF ENGINEERING AND MECHANIC ARTS

Armco Foundation Scholarship in Civil Engineering. This award of $650 yearly will be continued for a total of four years provided the recipient maintains satisfactory standards.

Machinery, Inc., Engineering Scholarship. This scholarship is to be awarded to a worthy senior student of good moral character, a resident of West Virginia, who expects to pursue the field of engineering upon graduation. The amount is $400 per year.

Mead Corporation Scholarship. This scholarship was established in 1956 by the Mead Corporation of Dayton for the aid of a worthy student in engineering or science. It carries a stipend of $300.

Westinghouse Achievement Scholarship. The Westinghouse Educational Foundation of Pittsburgh established in 1954 a scholarship of $500 per year. Each year a senior student from the enrollment in electrical, chemical or mechanical engineering on the basis of "high achievement in academic work and demonstrated qualities of leadership."

American Viscose Corporation Scholarship. The American Viscose Corporation of Marcus Hook, Pa., established in 1953 an undergraduate scholarship for a junior or senior majoring in chemical engineering or chemistry. The annual value of the scholarship is $500, and it alternates between students in the College of Arts and Sciences and the College of Engineering and Mechanic Arts.

Pocahontas Fuel Company, Incorporated, Scholarships. In 1956 the Pocahontas Fuel Company, Incorporated, established two undergraduate scholarships, one to begin in 1956 and the other to begin in 1958. The annual amount of each—$600 for West Virginia students or $900 for out-of-state students—is renewable from year to year on the basis of satisfactory scholastic and personal records. These scholarships are for the purpose of studying coal engineering in the College of Engineering and Mechanic Arts.

FOR STUDENTS IN THE SCHOOL OF JOURNALISM

All scholarships in the School of Journalism are given on the basis of ability, scholastic achievement, promise for a successful career in one of the many fields of communications media, and need of financial assistance.

Charleston Press Club Scholarships. The Charleston Press Club established in 1951 an annual grant of $200 for sophomores, juniors or seniors in journalism. This amount is generally awarded in the amount of $100 each to two recipients.

Journaliers' Tuition Scholarship. This scholarship, consisting of $56, was begun in 1958 and is awarded the first semester of each year to a worthy and deserving upperclassman in journalism. The sponsor is Journaliers, men's journalism honorary.

FOR STUDENTS IN THE SCHOOL OF MEDICINE

Claude Worthington Benedum Foundation Medical Scholarships. A fund of $1,200 yearly has been granted by the foundation for the aid of medical students with satisfactory academic records who need financial help to complete a given year's course of study. There is no set number.

Joseph Collins Foundation Scholarships. Established in 1951 under a bequest of the late Dr. Collins, physician and pioneer neurologist, these scholarships provide financial support in varying amounts for needy and deserving students. Recipients are determined on the basis of scholarship, interest in arts or letters or other cultural pursuits outside the field of medicine, and on the intention of entering neurology or psychiatry as specialties or of becoming a general practitioner. Recipients also must show a need for financial aid. There is no set number.

FOR STUDENTS IN THE SCHOOL OF MINES

Clarence Wayland Watson Memorial Scholarship. In the winter of 1955 the University received an anonymous gift for the establishment of the Clarence Wayland Waston Memorial Scholarship. Scholarship aid in varying amounts from this fund will be awarded from time to time to an outstanding and worthy graduate or undergraduate who will pursue some branch of study in coal development or coal research.

Armco Foundation Scholarship. The Armco Foundation of the Armco Steel Company, Middletown, Ohio, established in May of 1954, two scholarships in the field of Mining Engineering. Each grant provides $250 per academic year. One is awarded to a junior student and the other to a senior student in the School of Mines. Selection of recipients is made on basis of academic record, character, and personal leadership qualities.

Lorado Coal Mining Company Scholarships. The Lorado Coal Mining Company, beginning in the fall of 1954, provided scholarship grants of $500 each per academic year to two students in the field of Mining Engineering. Selection of the recipients is made by the Lorado Coal Mining Company with the approval of the Director of the School of Mines.

The Central Appalachian Section of the American Institute of Mining, Metallurgical and Petroleum Engineers has awarded three scholarships to boys in Kentucky, West Virginia, and Virginia. These boys are eligible to attend any school teaching mining engineering in the area.

FOR STUDENTS IN THE SCHOOL OF MUSIC

Band and Orchestra Participation Scholarships. These grants are awarded to those members of the band and orchestra who are especially well qualified, and who, after two years' service, are invited to remain as members of these organizations. Recipients receive allowances in the form of remission of fees. There is no specific number.

Mrs. Russell Mac Murphy Chase Scholarship in Piano. The School of Music was named in the will of the late Mrs. Russell Mac Murphy Chase, the University's first piano teacher, as the recipient of the sum of $1,500, the income of which is to be used for scholarships in the piano department.

Presser Foundation Scholarship. This scholarship, established in 1952 by the Presser Foundation of Philadelphia, provides an annual grant of $350 for the aid of a student in the School of Music of good character and satisfactory standing, who may not carry on his studies without financial help provided by the foundation. Preference is given those who expect to become teachers.

University Band Drum Major Scholarship. The Board of Governors in 1953 established a drum major scholarship to be awarded annually. It entitles the recipient to remission of all fees, except those payable to State special funds and those chargeable to special services.

FOR STUDENTS IN THE SCHOOL OF PHARMACY

The American Foundation for Pharmaceutical Education. This foundation, desiring to encourage higher standards in pharmaceutical education, has provided the School of Pharmacy with a scholarship grant. The grant is in the amount of $150 per year, and is available to juniors and seniors having not less than a "B" average, and is awarded on the basis of scholarship and financial need.

P. A. and Ethel N. George Pharmacy Scholarship. Established in 1950 by Charles A. George of Ronceverte, this scholarship of $50 per semester is available to a stu-

dent in the School of Pharmacy from either Greenbrier or Monroe counties who needs financial assistance to complete his pharmaceutical education. The recipient must maintain at least a "C" average to continue on this scholarship.

The Pharmacists of West Virginia, individually and collectively, have provided a number of scholarships in the amount of $150 a year for capable students in the School of Pharmacy needing financial assistance to aid them in their pharmaceutical education. The final selection of recipients is made by a committee of the West Virginia State Pharmaceutical Association. The following scholarships are a part of this program:

Lynn L. Carson Pharmacy Scholarship
Cohen Drug Company Pharmacy Scholarship
Fredlock Pharmacy Scholarship
Griest's Pharmacy Scholarship
Henderson Drug Store Pharmacy Scholarship
Ohio Valley Pharmacy Scholarship
Southern West Virginia Pharmaceutical Auxiliary Pharmacy Scholarship (for women only)
West Virginia Pharmacy Scholarship

The Pepsodent Presidential Scholarship. This scholarship, consisting of $100 for each of four years, is awarded each year to a person desiring to study for the profession of pharmacy.

The Central Pharmaceutical Journal Pharmacy Administration Prize. This is an annual $25 prize awarded to the graduating student with the best grades in pharmaceutical administration. It will be given by *The Central Pharmaceutical Journal.*

FOR STUDENTS IN ANY COLLEGE OR SCHOOL OF THE UNIVERSITY

Scholastic Improvement Award. This award of $75 and an appropriate key is presented at the close of each regular academic year to the freshman resident of Men's Hall showing the highest grade improvement from the first to the second semester of that year. The award was established in 1958 by the action of the faculty resident and proctors' council, with funds to be provided by the Co-op Fund of Men's Hall.

Dean Edna Arnold Memorial Scholarship. Associated Women Students established in the spring of 1956 a scholarship in the University in memory of the late Edna Arnold, Dean of Women at the University during the years 1935 to 1955. This scholarship covers full tuition for two semesters. It is presented annually to an outstanding and deserving upperclass woman student in the University.

F. F. McIntosh, Jr. Scholarship. This scholarship in memory of F. F. McIntosh, Jr. is awarded annually to a young man or woman from Roane County and has a value of $100 per year. Selection of the scholar will be made by the West Virginia University Alumni of Roane County.

Sophia and Clora Benedum Scholarship Fund. The will of the late Clora Benedum of Bridgeport established a $10,000 trust fund to be known as the Sophia and Clora Bendum Scholarship Fund. The provisions of the will state that "income is to be used in assisting graduates of Bridgeport High School in attending West Virginia University." Two scholarships are awarded each year on basis of top grades of all students from Bridgeport High School.

Board of Governors Student Body President Scholarship. This scholarship is to be awarded to the student elected as president of the student body during the academic year which he serves most of his term. The scholarship entitles him to remission of all fees except those going to special services.

Delta Gamma Alumnae Chapter Scholarship. As a part of the sorority's national philanthropic project, the local alumnae chapter awards $100 annually to a deserving blind student.

Olin Mathieson Employees' Scholarship. The employees of Olin Mathieson Chemical Corporation (Morgantown Plant) have established a scholarship fund in West Virginia University for the purpose of giving aid and encouragement to children and/or grandchildren of former employees of the Corporation's Morgantown Operation wherever they may now reside, to secure college training in any chosen field of study. The value of this scholarship is $200, and the recipient may continue to receive such grants from year to year for four years if academic and character standards of the University are met. The recipient will be chosen by the University, and selection of applicant will be made on the basis of 1) ability to do college work, 2) character

and personality, and 3) need for financial assistance to attend college. Candidates from any undergraduate class rank may be considered. In case no candidates are avaliable from families of employees for a period of three consecutive years, the University is free to select other worthy recipients who may qualify under the above conditions.

West Virginia Division of the United Daughters of the Confederacy Scholarship. This scholarship was established in 1950 by the West Virginia Division of the United Daughters of the Confederacy. It has a value of $100 per year. Selection is made by the United Daughters of the Confederacy.

O. J. Morrison, Jr., Memorial Fund. This is a bequest to the University for the establishment of a trust fund for scholarships in memory of O. J. Morrison, Jr., of Charleston, former University track captain. This gift was provided for in the will of Freda Morrison Smith, who died in 1955. Mrs. Smith expressed the wish that the earnings from the trust fund go to aid such boys and girls who for financial reasons would not be able to attend college. Mrs. Smith and Mr. Morrison were two of the five children of the late O. J. Morrison of Charleston, founder of the Morrison department stores. Aid from this fund will not be available for the 1959-60 year.

FOR FOREIGN STUDENTS

Board of Governors Foreign Student Scholarships. These two scholarships are available to foreign students, graduate or undergraduate. Recipients are entitled to remission of all fees except those payable to State Special Funds and those chargeable to Special Services, and are awarded at the discretion of the President of the University, usually to supplement campus or civic awards, or in case of emergency.

West Virginia Federation of Women's Clubs Pan-American Scholarship. The winner of this scholarship is remitted tuition fees by the Board of Governors, and receives room, board, books, and other incidentals from the federation.

West Virginia Home Demonstration Council Foreign Scholarship. This scholarship, established in 1949 for the purpose of promoting better understanding between the rural peoples of the United States and of foreign countries, provides for books, board, and other necessary living expenses, and remission of fees for a foreign student enrolled in the Division of Home Economics.

West Virginia University All-Campus Foreign Student Scholarship. The All-Campus Foreign Student Committee, representative of several campus organizations, in 1951 established a one-year scholarship for the support of a foreign student. Board, room and incidental expenses are paid annually by the committee, with remission of tuition and fees provided by the University.

Graduate Scholarships

FOR STUDENTS IN THE COLLEGE OF AGRICULTURE, FORESTRY, AND HOME ECONOMICS

Andrew Delmar Hopkins Scholarship in Entomology. This scholarship, established in 1954, is in memory of Dr. Andrew Delmar Hopkins, internationally known entomologist and for many years director of the W.V.U. Agricultural Experiment Station. It is for $200 per year and is awarded to a worthy senior or graduate student with an interest in entomology, who has demonstrated originality and research ability.

FOR STUDENTS IN THE COLLEGE OF ARTS AND SCIENCES

National Society of Colonial Dames of America Scholarship. The society in 1952 established an annual scholarship for the aid of a worthy graduate student for work in the field of early American history. The annual value of the scholarship is $150. This award rotates among several institutions.

R. M. Davis Scholarship in Political Science. R. M. Davis, Morgantown coal operator, has given the University the sum of $5,000 to establish a scholarship in the Department of Political Science. The scholarship, with an average annual value of between $300 and $500, is granted to an undergraduate or graduate student whose speciality is international relations. Scholastic standing and qualities of leadership will be given primary consideration.

Mead Corporation Scholarship. This scholarship was established in 1956 by the Mead Corporation of Dayton for aid to a worthy student in science or engineering. It carries a stipend of $300.

The Junior Leagues Scholarship. This scholarship, providing $200 a year for a graduate Social Work student, was established in 1942. It is jointly supported by the four leagues of West Virginia. Applicants must be residents of the State, and all applications are to be addressed to the Head of the Department of Social Work at West Virginia University.

Rehabilitation Traineeships in Social Work. Four or more traineeships in the amount of $1800 per year for first-year students and $2000 for second-year students are made available by the Office of Vocational Rehabilitation, U. S. Department of Health, Education, and Welfare. Candidates who plan to prepare for future work in rehabilitation of the physically or mentally handicapped are eligible to apply. Admission to the Department of Social Work for graduate study is prerequisite. Inquiry or application should be made to the Head of the Department of Social Work.

Mental Health Traineeship. Four to six traineeships in the amount of $1800 per year for first-year students and $2000 for second-year students are available from the National Institute of Mental Health, U. S. Department of Health, Education, and Welfare. Candidates who plan to prepare for a career in psychiatric social work are eligible to apply. Admission to the Department of Social Work for graduate study is prerequisite. Inquiry or applications are to be made to the Head, Department of Social Work, West Virginia University.

West Virginia Department of Public Assistance Scholarships. These educational leave stipends, available from the Social Service Division and The Child Welfare Division, amount to $175 per month plus dependent's allowances and tuition. They are available to employees of the Department, including applicants who are accepted for employment with a view to obtaining graduate education in social work. The recipient agrees to work for the Department of Public Assistance at least one year for each year of educational benefits received. In exceptional circumstances, employees may receive stipends to complete the senior year in college.

Application for the stipend is made to Mr. Benjamin Guy III, Chief, Division of Social Service, or to Miss Lillian Nagy, Chief, Division of Child Welfare. Applicants must have been granted admission for graduate education in social work: applications to West Virginia University should be addressed to the Head, Department of Social Work.

West Virginia Department of Mental Health Stipends for graduate education in social work. These are available in the amount of $2000-$2400 per year. Candidates are selected by the West Virginia Department of Mental Health to receive stipends on the basis of scholastic achievement, personal qualifications, and probable future benefit to the mental health program of West Virginia. One year of commitment to work in a hospital or clinic under the jurisdiction of the West Virginia Department of Mental Health for each year of stipend grant is required. Candidates need not be residents of West Virginia although preference will be given to qualified West Virginia applicants. Candidates must have been admitted for graduate education in social work. Application for admission is made to the Head, Department of Social Work, West Virginia University.

United Fund of Kanawha Valley. Educational Stipends in Social Work. Two stipends of $1500 per year each are available to candidates who desire to serve, upon completion of social work education, in one of the agencies in the Kanawha United Fund area (Charleston, West Virginia and vicinity). Two agencies currently designated to receive and grant these stipends are the Family Services of Charleston and the West Virginia Children's Home Society. Application is made to Head, Department of Social Work, West Virginia University.

The Children and Family Service Association, Wheeling, West Virginia. A work-study stipend of approximately $1300 per year may be granted to employees of that agency or candidates for employment desiring to make commitment to work year-for-year. Preference given to second-year students. Candidates must have been admitted for graduate social work education. Applications for graduate social work education may be obtained from Head, Department of Social Work, West Virginia University.

Pennsylvania Department of Welfare, Bureau of Children's Services, Educational Stipends. These stipends are an approximate amount of $275 per month and are available for persons who want to secure training in social work before beginning employment with Child Welfare Services, as well as for staff members who may apply for Educational Leave for professional training. Candidates for scholarships will be

selected on the basis of their interest in Rural Child Welfare and their potentialities for successful performance in the profession of social work. They must:

(1) meet the minimum qualifications for employment.
(2) be able to qualify for admission to an accredited school of social work.
(3) be interested in public child welfare in rural counties and free to work in any part of the Commonwealth on a commitment of one year of employment for each year of training received.

Applications should be made to Miss Jean Farquhar, Training Advisor, Bureau of Children's Services, Department of Welfare, Harrisburg, Pennsylvania.

Maryland Department of Welfare Work-Study Plan. By arrangement with West Virginia University Department of Social Work, employees of the Alleghany County Welfare Board, the Garrett County Welfare Board (and other local offices within commuting distance of Morgantown) may undertake two years of graduate social work education while employed by the agency at approximately $2575 per nine months. Admision to the school is determined in the regular way. Field work is planned in advance in a unit of the Maryland Department of Welfare. Inquiries should be addressed to Head, Department of Social Work, West Virginia University.

U. S. Veterans Administration, Department of Medicine and Surgery, Social Service, paid field work. Second-year students whose field placements are in the social service of a Regional Office or Hospital, may apply for status of paid field work "employee." Remuneration is $1.96 per hour, that is, approximately $1100-$1500 during a block placement.

FOR STUDENTS IN THE COLLEGE OF EDUCATION

Lakin Roberts Memorial Scholarship. This scholarship is open to graduate students in education, and is worth $200 per year.

FOR STUDENTS IN THE COLLEGE OF ENGINEERING AND MECHANIC ARTS

Mead Corporation Scholarship. This scholarship was established in 1956 by the Mead Corporation of Dayton for the aid of a worthy student in engineering or science. It carries a stipend of $300.

FOR STUDENTS IN THE SCHOOL OF MINES

Clarence Wayland Watson Memorial Scholarship. In the winter of 1955 the University received an anonymous gift for the establishment of the Clarence Wayland Waston Memorial Scholarship. Scholarship aid in varying amounts from this fund will be awarded from time to time to an outstanding and worthy graduate or undergraduate who will pursue some branch of study in coal development or coal research.

FOR FOREIGN STUDENTS

Board of Governors Foreign Student Scholarships. These two scholarships are available to foreign students, graduate or undergraduate. Recipients are entitled to remission of all fees except those payable to State special funds and those chargeable to special services, and are awarded at the discretion of the President of the University, usually to supplement campus or civic awards, or in case of emergency.

PRIZES AND AWARDS

Awards for prizes in the University are made in accordance with the following rules:

No composition, in whole or part, shall be submitted in competition for two prizes.

Only students pursuing courses leading to baccalaureate degrees are eligible for any prize, except for the James F. Brown prize.

No student shall be eligible to enter any contest who has not been a resident student in this University for at least one semester preceding the semester in which the contest is to be held, and who, unless he be a competitor for the James F. Brown prize, is not a resident student in good standing in the University in the semester in which the contest is held.

No successful contestant may become for a second time a competitor for the same prize.

If in any contest the judges find no manuscript of sufficient merit, there shall be no prize awarded for that year.

Students intending to compete in any essay-writing contest must notify the Scholarship Coordinator no later than March 15. Three typewritten copies of each essay must be in the hands of the chairman of the committee not later than May 15.

The conditions upon which the awards in the several contests are made may be learned upon application to the office of the Scholarship Coordinator.

FOR STUDENTS IN THE COLLEGE OF AGRICULTURE, FORESTRY, AND HOME ECONOMICS

West Virginia Junior Chamber of Commerce Wildlife Management Scholarship Award. This award consists of $500 annually to the winner of a state-wide essay contest on "Financial Benefits to Be Derived From a Local Conservation Project." The winner also must meet all entrance requirements of the University.

Borden Agricultural Award. This award, established in 1954 for an initial five-year period, is in the amount of $300 annually. It is made to the senior student majoring in agriculture who has achieved the highest grade in all college work preceding the senior years, and who has included in his curriculum two or more dairy courses. It is supported by the Borden Company Founadtion.

The Virginia Dare Award. An award of $25 and a plaque goes annually to the outstanding senior student in dairy manufacturing. It is maintained by the Virginia Dare Extract Company.

The Charles Pfizer and Company Award. This award goes annually to an outstanding student who plans a career in extension work.

Borden Home Economics Award. This award, established in 1954 for an initial five-year period, is in the amount of $300 annually. It is made to the senior student majoring in home economics who has achieved the highest average grade in all college work preceding the senior year, and who has included in her curriculum two or more courses in foods and nutrition. The award is supported by the Borden Company Foundation.

The La Verne B. Davis Home Economics Award. This award of $25 was established and is supported by Mr. and Mrs. Richard Earl Davis. It is presented annually to the graduating senior in the Division of Home Economics who has maintained the highest scholastic average during four years of residency.

FOR STUDENTS IN THE COLLEGE OF ARTS AND SCIENCES

The Waitman Barbe Memorial Prize. The English Club offers a prize of $25 in memory of Waitman Barbe, poet, scholar, and adviser to the English Club during his long term of faculty service. It is awarded to some student regularly enrolled as a junior or senior for creative work in the field of literature, either in prose or in poetry or in both. The minimum length of such compositions must be 4,000 words of prose or 100 lines of poetry.

Chi Omega Sorority Prize. This $15 prize goes to the sociology major with the highest academic ranking. All work done at the University is taken into account. No student is eligible to compete unless his junior or senior years have been spent at West Virginia University.

The West Virginia Society of the Sons of the American Revolution Award. This award of $100 goes each year to the writer of the best essay on a specified topic in the field of West Virginia history during the colonial and early national periods.

The William Jennings Bryan Prize. The Honorable William Jennings Bryan, before his death, gave a sum of money, the actual income of which is offered as a prize ($50) to the student in the University who shall write the best essay on some subject in the science of Government.

FOR STUDENTS IN THE COLLEGE OF COMMERCE

West Virginia Society of Certified Public Accountants Award. In the fall of 1957 the West Virginia Society of Certified Public Accountants established one or more awards of $100 each to be given annually to a student at West Virginia University in the last semester of his junior year as an accounting major, the selection of such student to be made by the Dean of the College of Commerce.

The Erwin Award in Accounting. This $100 award goes in late April each year to a student in the College of Commerce majoring in accounting. The college applies the criteria of scholarship, character, and interest in accounting in selecting winners.

The West Virginia Tax Institute Award. This $100 award goes annually to a senior in the College of Commerce on the basis of scholarship, character, professional promise, and interest in the field of taxation.

The Daniel S. Witschey Award. Robert E. Whitschey offers $50 each year to an outstanding student majoring in accounting.

FOR STUDENTS IN THE COLLEGE OF ENGINEERING AND MECHANIC ARTS

The Rufus A. West Award. The late Rufus A. West, a former instructor, because of his interest in the college and in the young men who have been and are students therein, and with the further idea of promoting sound scholarship, bequeathed $10,000, the income from which is used as an annual award to the member of the graduating class of the College of Engineering and Mechanic Arts who has maintained the highest scholarship as measured by his grade-point average.

The James Weimer Memorial Award. This award pays tuition for one year. The donor desired anonymity. The award is given to the senior making the highest average his first three years in chemical engineering.

FOR STUDENTS IN THE COLLEGE OF LAW

The West Virginia Law School Association Awards. The West Virginia Law School Association has established annual scholarship awards to such third year member and such second year member of the student board of editors of the West Virginia Law Review as, in the judgment of the faculty of the College of Law, shall have made outstanding contributions to the West Virginia Law Review. The amount of each of these two annual awards is $50.

The James F. Brown Prize. James F. Brown, alumnus, "with a desire to stimulate the young men of the State to fuller consideration of the 'inalienable rights of mankind,' and especially those guaranteed by the Constituions of the State and the United States," has contributed $5,000 to the University, the income from which is to be "used as a prize for the best essay or paper each year on the subject of the individual liberties of the citizen as guaranteed by the Constitutions." The income may be given as a single prize, or it may be divided into a first and second prize. For the present the award is made as a single prize of $200. Any regularly enrolled student within one year after receiving an undergraduate degree may compete for the prize. Graduates of the College of Law or the School of Medicine, or holders of any postgraduate degree are not eligible to compete for the prize.

The Nathan Burkan Memorial Prize. The American Society of Composers, Authors, and Publishers has established the Nathan Burkan Memorial Competition, open to the leading universities and colleges of the country that offer courses in law. A prize of $100 is available to each institution, to be awarded to the student in the graduating class in law who prepares the best paper on the subject of "Copyright Law."

The Lawyers' Title Award. This award is made by the college to the graduating student found to have been most proficient in Property Law. The award consists of an appropriate certificate and $100 in cash.

The Frank Bliss Enslow Legal Scholarship Award. The late Mrs. Frank Bliss Enslow of Huntington provided in her will a trust fund in support of the Frank Bliss Legal Scholarship at the University. This annual award is restricted to students enrolled in the College of Law, and selection is made on the basis of ability, character, financial status, and scholastic qualifications. Recipients must be residents of West Virginia, and preference will be given applicants from Cabbell County. The amount of the scholarship will be determined from year to year. A second-year man holding the scholarship award can repeat as its winner during his final year if conditions warrant.

The Patrick Duffy Koontz Scholarship Awards. The late Patrick Duffy Koontz and Arthur Burke Koontz have donated to the University certain securities, the income from which is used for the purpose of establishing scholarship awards in the College of Law for worthy students from West Virginia. The value of each scholarship is $250, and there are as many as four or five in operation concurrently. These awards are to be made to such second- or third-year students as show outstanding promise with respect to scholastic ability and attainment, moral force of character, and leadership.

The Tax Commission Prize. Five members of the State Tax Commission in 1902—W. P. Hubbard, Henry G. Davis, John K. Thompson, L. J. Williams, and J. H. Holt

—gave the sum of $1,350, later increased by unawarded sums to $1,500, the income from which is used annualy as a prize for the "best original work bearing on matters of taxation in West Virginia." The conditions of the competition are determined by the Council of Administration. The prize at present is in the amount of $50.

FOR STUDENTS IN THE DIVISION OF MILITARY SCIENCE AND TACTICS AND AIR SCIENCE

ARMY AWARDS

Lt. James C. Borden, Jr. Memorial Award. The West Virginia University Mountaineer Rifle Club and Gamma Pi Chapter of Sigma Nu Fraternity award each year a bronze trophy to the outstanding rifleman on the Varsity Rifle Team. The winner's name is inscribed on a plate on the base of the trophy which remains on permanent display in the Armory.

Lt. James E. Marshall Memorial Award. The Beta Psi Chapter of Beta Theta Pi Fraternity awards each year a bronze trophy to the most outstanding West Virginia University Army ROTC senior infantry student. The winner's name is inscribed on a plate at the base of the trophy which remains on permanent display in the Armory. A small metal emblem attesting to the honor is presented to the recipient.

Association of the United States Army Award. The Association of the U.S. Army awards each year a medal to the junior Army ROTC student most outstanding in military aptitude.

West Virginia Reserve Officers Association Award. The West Virginia Reserve Officers Association awards medals each year to the senior Army ROTC student and sophomore Army ROTC student most outstanding in military aptitude.

Armed Forces Communication Award. The Armed Forces Communications Association awards a medal each year to the outstanding senior Army ROTC student majoring in Electrical Engineering.

American Ordnance Association Award. The American Ordnance Association awards each year a gold scholarship key to the outstanding senior Army ROTC student commissioned in the Ordnance Corps.

West Virginia Sons of the American Revolution Award. The West Virginia Sons of the American Revolution awards each year a medal to the sophomore Army ROTC student most outstanding in military proficiency.

West Virginia Society of the Daughters of the Founders and Patriots of America Award. The West Virginia Society of the Daughters of the Founders and Patriots of America awards a medal each year to the freshman Army ROTC student most outstanding in military aptitude.

Department of the Army Superior Cadet Ribbon Award. The Department of the Army awards each year a ribbon to the outstanding all-around Army ROTC student in each class.

AIR FORCE AWARDS

Society of the American Military Engineer Award. This award is presented to the top 20 juniors and the top 20 seniors in Engineering throughout the nation who are enrolled in Air Science.

Air Force Association Award. The Air Force Association presents this award to a senior for outstanding leadership, scholarship, and campus activities.

West Virginia Aviation Foundation Award. Awards of $50.00 are presented to a senior and to a sophomore for leadership, scholarship, and participation in school activities.

Chicago Tribune Award. For each Air Science year this award is presented for military achievement, scholastic attainment, and high moral character.

West Virginia Reserve Officers Association Awards. Presented to a senior and to a sophomore cadet for outstanding leadership in campus activities.

Colonel Joe W. Compton Award. Presented to a senior cadet for outstanding service to the University, the AFROTC Wing, and for demonstrating high qualities of personality, character, and leadership, in memory of Colonel Joe W. Compton, Professor of Air Science from 1953 to 1955.

Convair Award. Presented to an outstanding sophomore selected for advance AFROTC in a category leading to flight training.

Sons of the American Revolution Award. Presented to a freshman cadet for exhibiting in his work a high degree of leadership and military bearing.

Rifle Team Awards. Presented to the two top average scorers on the AFROTC Rifle Team.

FOR STUDENTS IN THE SCHOOL OF MINES

West Virginia Coal Mining Institute Prize for Students in the School of Mines. In order to stimulate interest on the part of mining engineering students in their profession, the West Virginia Coal Mining Institute offers a prize of $25 each year to a member of the graduating class of the School of Mines. The student must be enrolled in the coal mining option and his scholarship must be the highest of that group as measured by his grade-point average.

West Virginia Oil and Natural Gas Association Prize for Students in the School of Mines. In order to stimulate interest on the part of oil and natural gas engineering students in their profession, the West Virginia Oil and Natural Gas Association offers a prize of $25 each year to a member of the graduating class of the school of Mines. The student must be enrolled in the oil and natural gas option, and his scholarship must be the highest in that group as measured by his grade-point average.

Th Charles E. Lawall Award. This award was created in 1952 through the generosity of D. L. McElroy of Pittsburgh and is given in the first semester of each year to the senior student maintaining the best scholastic average in the first 100 hours of the required curriculum. Students in the coal mining option and the oil and gas option are eligible. The award carries a cash payment of $50.

FOR STUDENTS IN THE SCHOOL OF MUSIC

The Epsilon Nu Chapter of Mu Phi Epsilon Award. This award is of $25, and goes to a senior woman student in the School of Music for outstanding qualities of character, scholarship, and musicianship.

FOR STUDENTS IN THE SCHOOL OF PHARMACY

The Gay H. Dent Essay Award. Funds have been provided for awarding $25 to the student of the School who submits the best essay on some pharmaceutical subject during the second semester of each year. A committee of students selects the subject for the essay and judges the entries.

The Gay H Dent Prize. Gaylor H. Dent, for many years a successful pharmacist of Morgantown, bequeathed to the School of Pharmacy the sum of $500. The interest on this money is used to maintain the Gay H. Dent Prize, which in some measure typifies the personal traits of the donor. The prize is awarded biennially to the graduating senior who, in the opinion of the members of the senior class, is most likely to succeed in the profession of pharmacy because of a love of service, a genial personality, and natural leadership.

Kappa Psi Junior Scholastic Achievement Award. The local chapter of Kappa Psi, pharmaceutical fraternity, offers an annual award of twenty-five dollars to the member of the Junior Class having the highest scholastic average during the year. The name of the recipient is inscribed upon the plaque located in the School quarters.

Rho Chi Award. In order to stimulate scholastic ability, Alpha Mu Chapter of Rho Chi, honorary pharmaceutical society, offers an award of twenty-five dollars to the students of the School receiving the highest scholastic average during the first semester (Rho Chi members to be excluded), the award to be used as partial expense in visiting the pharmaceutical manufacturing concern during the annual visitation.

LOAN FUNDS

Listed here are all loan funds available to University students. Most of them contain stipulations regarding their use and applicability. They are administered through the office of the Director of Student Affairs, with the cooperation of advisory committees, University officials, and alumni.

FOR STUDENTS IN THE COLLEGE OF AGRICULTURE, FORESTRY, AND HOME ECONOMICS

The Baltimore and Ohio Railroad Fund. A special fund for small loans to student in the college has been established by the Baltimore and Ohio Railroad.

The Maude George Memorial Fund. In 1950 Charles A. George of Ronceverte established this Fund in memory of his aunt. Eligible University students from Greenbrier and Monroe counties may borrow up to $50 per semester or $100 per academic year, as long as the Fund is in effect.

The Heebink Memorial Loan Fund. This fund was established in 1958 in memory of Gerald Heebink, for almost two decades a dairy extension specialist at the Uni-

versity. It is intended to help needy students get an education in dairy and related agricultural fields.

FOR STUDENTS IN THE COLLEGE OF ARTS AND SCIENCES

The John M. Crawford and David B. Crawford Loan Fund. In 1951 the Parkersburg Rig and Reel Company established the John M. Crawford and David B. Crawford Loan Fund with an initial gift of $5,000 to assist accredited students seeking a degree in engineering or geology and who have financial need. Loans are available to students who are graduates of West Virginia high schools, and seeking a degree in engineering (preferably petroleum engineering) or geology.

The Lily Belle Sefton Deatrick Student Loan Fund. Established in 1947 by the Campus Club in memory of Lily Belle Sefton Deatrick, former professor of chemistry, this fund provides small loans for students without interest until after graduation. It is administered by the Dean of the College and the head of the Department of Chemistry.

The Social Work Alumni Loan Fund. This fund, totaling $100 at present, was established in 1951 for the benefit of undergraduate or graduate students in the department, irrespective of residence. Loans are made by the Director of Student Affairs with the approval of the head of the department. No interest is required, and loans are to be repaid within two years after the student has completed his current degree objective.

The West Virginia State Conference of Social Work Fund. This fund was established in 1940. It grants funds, without interest, to eligible full-time graduate social work students who are residents of West Virginia. Detailed information is available from the head of the department.

FOR STUDENTS IN THE COLLEGE OF COMMERCE

American Bankers' Association Foundation for Education in Economics Loans. This foundation has assigned to the University three scholarship-loans of $300 each. These will be "awarded only to deserving students in integrity, intelligence, character, competency, and aptitude, whose means of support are dependent wholly or in part on their own labor, to enable them to continue the study of courses in banking and economics in classes of junior grade or above. Scholarship of the highest rank will not be a definite requirement for a loan-scholarship award; however, the foundation desires to encourage students who will become leaders in professional or business life and does not wish loan-scholarships granted to mediocre or inferior students." The loans are available to seniors, graduates and special students in the amount of $300 a semester for a maximum of two semesters. An interest rate of 2 per cent will apply, with repayments and interest beginning the second January 1 following graduation.

College of Commerce Student Loan Fund. This fund, established in 1957, is for small loans of short-term nature, and only for students in the College of Commerce. Loans must not exceed $75 and will not be made for terms longer than 90 days. No interest is charged.

Sterling Enterprises Foundation, Incorporated, Scholarship Loan Fund. This consists of a grant of $5,000 to provide 10 scholarship-loans of $500 each ($250 per semester) to students in the College of Commerce and the College of Engineering and Mechanic Arts. Preference shall be given: (1) children or dependents of Sterling Enterprises employees; (2) residents of Monongalia or Preston Counties; (3) any student resident of West Virginia if there are no applicants in preferential categories. In order to qualify for continued aid, a student must maintain an average of at least 2.5. Loans are to be repaid at the rate of at least $200 per year. If payments are not made on time, then interest of 5 per cent will be added from the due date.

FOR STUDENTS IN THE SCHOOL OF DENTISTRY

Oscar W. Burdats Dental Students' Revolving Loan Fund. In 1955 friends of Oscar W. Burdats in the Wheeling area established a student loan fund for dental students at the University in recognition of Dr. Burdats' outstanding leadership in the dental profession for more than 60 years. The fund will be used for loans to worthy dental students who are residents of West Virginia.

The W. K. Kellogg Foundation Dental Students' Loan Fund. This Foundation in September 1958 allotted $15,000 to the University for loans to undergraduate dental students in good academic standing who otherwise might not be financially able to continue their education.

FOR STUDENTS IN THE COLLEGE OF EDUCATION

Teachers Training Scholarship Loan Fund. In 1957 the State Legislature created the West Virginia Scholarship Loan Fund for teacher trainees for public purpose of relieving the teacher shortage in schools. In each county there is a selection committee comprised of the County Superintendent of Schools (Chairman) and the Board of Education. Annually, by the first day of May, each county committee shall select and recommend to the State Superintendent of Free Schools for appointment from that county their quota of graduates who are interested in teaching. Each person selected shall rank in the upper third of the members of his or her graduating class, and be a bona fide resident of the county from which selected. Each scholarship loan carries a stipend of $500.00 for a school year. *For further details contact your County Superintendent of Schools.*

FOR STUDENTS IN THE COLLEGE OF ENGINEERING AND MECHANIC ARTS

Sterling Enterprises Foundation, Incorporated, Scholarship Loan Fund. (See page 48, College of Commerce, for details of this Fund.)

Eta Kappa Nu Loan Fund. This Fund is available to Engineering students in good standing. All loans are subject to the conditions specified by the By-Laws of Eta Kappa Nu; namely, that loans must be approved by a committee consisting of members of Eta Kappa Nu, and that loans are interest free until four months after the student leaves the University.

FOR STUDENTS IN THE SCHOOL OF JOURNALISM

Robert H. Pritchard Journalism Loan Fund. In 1952 Dr. and Mrs. Frank V. Rueckl of Winnemucca, Nev., established a loan fund in memory of Mrs. Rueckl's father, Robert H. Pritchard, a former member of the University Board of Governors and prominent newspaper owner and editor in Weston. This fund of $1,000 is open to use by journalism students who are residents of West Virginia. Loans up to $100 per year may be obtained by a student over four years.

P. I. Reed Journalism Alumni Loan Fund. This fund was started in 1949 by members of the journalism class of 1940 to provide small emergency loans to students majoring in journalism. The fund was raised through contributions of journalism alumni of various classes and named in honor of Professor P. I. Reed, director of the School of Journalism since it was formed in 1939, and formerly head of the Department of Journalism. Loans are to be repaid in one to three months.

FOR STUDENTS IN THE COLLEGE OF LAW

The John W. Davis Fund. This was established for the making of loans to outstanding law students, and aids worthy students each year.

FOR STUDENTS IN THE SCHOOL OF MEDICINE

John B. Finley Fund. A fund of $1,000 was contributed by the trustees of the estate of John B. Finley of Pittsburgh, in accordance with his will, to be used to make loans to deserving students in the School of Medicine.

The General Loan Fund for Medical Students. This fund was established in 1958 for the general aid of needy and deserving medical students.

The Kellogg Foundation Fund. This foundation in 1942 allotted $5,000 to the University for loans to students of medicine. Loans may not exceed $250. Interest is charged at the rate of 2 per cent. Students may not borrow until after successful completion of one term in the School of Medicine.

Howard T. Phillips Loan Fund. The late Dr. Phillips of Wheeling set aside in his will a grant of approximately $1,000 for loans to medical students at the University. Dr. Phillips stipulated that loans from this fund should be made to "students who are deserving as well as needy and who are enrolled in the School of Medicine."

Thomas Pyles Medical Loan Fund. This fund was established in 1958 in memory of Thomas Pyles, who died during his first year in the School of Medicine.

FOR STUDENTS OF MILITARY SCIENCE AND TACTICS AND AIR SCIENCE

R.O.T.C. Loan Fund. This loan fund, which honors the late Col. Samuel B. Roth, professor of military science and tactics from 1950 to 1953, was established in 1956 by a $200 gift from an anonymous donor. It is to be used to make small emergency loans to students in Advanced Army and Air Force R.O.T.C.

FOR STUDENTS IN THE SCHOOL OF MINES

Central West Virginia Coal Mining Institute Scholarship Loan Fund. This fund provides annually two scholarship loans of $500 per year each. The loans are renewable from year to year, and are repayable on a scheduled basis after graduation.

John M. Crawford and David B. Crawford Loan Fund. (See page 48, College of Arts and Sciences, for details of this Fund.)

Monongahela Valley Coal Mining Institute Loan Fund. This institute in 1952 established a loan fund of $1,500 to aid worthy students in the field of coal mining engineering who are residents of Monongalia County. Loans may be made to students beyond their first semester in mining engineering on a short-time basis without interest.

Fred G. and Nannie D. Wood Loan Fund. In 1949 this fund was created by an initial gift of $1,000 from the late Fred G. Wood, a former Raleigh County coal operator. The provisions state that loans shall be made to assist students to receive training in the engineering of coal mines, and that "preference shall be given to students from families engaged in coal mining, or who have grown up in coal mining communities."

FOR STUDENTS IN THE SCHOOL OF MUSIC

Weldon Hart Memorial Loan Fund. In 1957 a memorial loan fund was established by friends of Weldon Hart, former director of the School of Music. The emergency fund is available to students enrolled in the school.

FOR STUDENTS IN THE SCHOOL OF PHARMACY

Alfred Walker Fund. This is a special fund for loans to pharmacy students, established in 1938 by Dean J. Lester Hayman in honor of the memory of Alfred Walker of Sutton, first president of the West Virginia Pharmaceutical Association, and for many years secretary of the association.

FOR STUDENTS IN ANY COLLEGE OR SCHOOL OF THE UNIVERSITY

Claude Worthington Benedum Scholarship Loan Fund. The Claude Worthington Benedum Foundation in 1952 established this fund with an original gift of $5,000. Additional gifts have been made to the fund from time to time. Deserving students from West Virginia who are in need of financial assistance to complete their educations are eligible for aid from the fund.

The Chauncey Watson Boucher Fund. This fund was established in 1936 by former President C. S. Boucher in memory of his father. Seniors from West Virginia may borrow only for the payment of University fees. Loans must be repaid within two years and are without interest.

Campus Club Loan Fund for Women. Beginning in 1918 the Campus Club established an emergency loan fund for the aid of women enrolled in the University. Small loans for emergency needs are made to women students.

Chimes Loan Fund for Women. Chimes, junior women's honorary, in 1956 established a loan fund for the aid of women students. Loans shall be no less than $10 nor more than $100 and shall be paid in full within the school term. There shall be no interest charged, but a small contribution shall be in order for purpose of maintaining the fund.

Elizabeth McAllister Crawford and John McLenaghen Crawford Fund. The Consolidated Natural Gas System Educational Foundation in 1950 established this fund with an initial gift of $10,000. Its purpose is to assist students who are without other resources from which their educational needs may be met. To be eligible for this aid, a student must be a graduate of a West Virginia high school, enrolled in a course leading to a degree, and must have completed at least the first semester of the freshman year.

Faculty Emergency Loan Fund. This fund was established in 1954 by an initial gift of $1,000 from A. W. Ramsey, of the Tidy House Products Company of Shenandoah, Iowa. Ramsey, president of the company and a University graduate, established the fund to provide small emergency loans for faculty members at a minimum cost.

Wade Hampton and Hessie Kirk Hampton Memorial Emergency Loan Fund. This fund was established in 1957 by the six children of Wade Hampton and Hessie Kirk Hampton, and is designed to aid in the form of emergency loans any student who is a citizen of the United States. If applicants are numerous, preference is to be given students whose parents are coal miners or employees in a coal mine.

Charles E. Lawall Fund. This was established in 1939 for small loans to worthy students, and is available to students whose scholastic record has been satisfactory.

Interest is payable only for periods in excess of the time for which the loan is granted.

Leon Leonian Memorial Fund. This fund was established in 1945 and consists of small loans to students for short periods without interest. It honors the memory of Dr. Leon Leonian, former staff member.

C. R. Orton Memorial Loan Fund. This fund, established in 1955, honors the memory of Clayton R. Orton, former dean of the College of Agriculture, Forestry, and Home Economics. It is available for small emergency loans to any University student.

Raleigh County Alumni Association Loan Fund. This association established a loan fund in 1953 for the aid of students enrolled from Raleigh County. Any regularly enrolled student who has permanent residence in Raleigh County may procure aid from the fund when available.

Revolving Emergency Loan Fund. This fund to meet emergencies of University students was established in 1931. The principal amounts to about $5,000. Loans are of small amounts and are made for short periods of time only.

Senior Class Loan Fund. A gift of $100 was given by the 1949 senior class to be used for aid to seniors in the University needing financial assistance. The class of 1950 made an additional gift of $100. Small loans are made without interest.

Service Clubs Loan Fund of West Virginia University, Incorporated. The West Virginia Kiwanis District in 1950 established a non-restricted loan fund for needy University students; and more recently other service clubs also have made donations. This fund is available to any student who is in good standing and is in need of financial help. It is operated on a non-profit basis. The low rate of interest charged goes toward the building up of the total amount available for student loans.

Theodore Smith Fund. In 1930 Theodore Smith, a University student, was drowned. His death disclosed the fact that he was being financed through the University by the late James E. Jones. He had taken out a life insurance policy of $2,000 with Mr. Jones as beneficiary. In deference to the memory of Theodore Smith, Mr. Jones turned the $2,000 over to the University for the establishment of this fund.

Stewart Student Loan Fund. This fund was established in 1958 by the faculty and staff of the University to commemorate Irvin Stewart's 12 years as president of the University. Loans for essential expenses are available to any worthy and needy student. No interest is charged while the student is enrolled, nor for six months thereafter. An interest rate of 3 per cent per year will apply thereafter.

P. C. Thomas Fund. This fund was established in 1943 in memory of the late P. C. Thomas of the Koppers Coal Company. The initial contribution made by the employees of the company was $520.

National Defense Student Loan Fund. Congress on August 23, 1958 passed the National Defense Education Act. The Act provides for the creation of a University loan fund from which needy undergraduate and graduate students may borrow on reasonable terms for the purpose of completing their higher education. Special consideration in the selection of loan recipients shall be given to students with a superior academic background who express a desire to teach in elementary or secondary schools, and whose academic background indicates a superior capacity or preparation in science, mathematics, engineering, or a modern foreign language.

HONOR SOCIETIES

Alpha Epsilon Delta (Premedical). The Alpha of West Virginia chapter of Alpha Epsilon Delta was established at West Virginia University in 1930. The chief object of the society is promotion of high scholarship among premedical students. Juniors and seniors of high scholarship and character are eligible for membership.

Alpha Pi Mu (Industrial Engineering). The West Virginia Chapter of Alpha Pi Mu was installed in 1955. Open to junior and senior industrial engineering students who have attained high scholastic rank.

Alpha Psi Omega (Dramatics). Pi chapter of Alpha Psi Omega was formed at West Virginia University in 1926. Recognition is given as a reward to students distinguishing themselves in dramatic productions, both by playing roles and by performing other outstanding duties on the technical and business side of productions.

Alpha Zeta (Agriculture). The West Virginia chapter of Alpha Zeta, the national agricultural honor fraternity, was instituted in the College of Agriculture in 1921. Sophomores and upperclassmen who maintain high standing in scholarship and rank among the upper two-fifths of their respective classes are eligible to membership.

Arnold Air Society (Air Force R.O.T.C.). Charles E. Yeager Squadron, West Virginia University, was installed in October, 1950. The object of Arnold Air Society is to further the purpose, mission, traditions, and concept of the United States Air Force as a means of national defense, to promote American citizenship, and to create a close and more efficient relationship among the cadets of the Air Force R.O.T.C., not only at West Virginia University, but also as a national organization. Those who are enrolled in advanced A.F.R.O.T.C., and meet the requirements of scholarship, service, and personal character established by the local chapter are eligible for membership.

Beta Gamma Sigma (Business Administration). The Alpha of West Virginia chapter of Beta Gamma Sigma was established at the University in January, 1955. The purposes of the society are to encourage and reward scholarship and accomplishment among students of commerce and business administration; to promote the advancement of education in the art and science of business; and to foster integrity in the conduct of business operations. Membership is conferred upon juniors and seniors on the basis of high scholarship and good moral character.

Chi Epsilon (Civil Engineering). Chi Epsilon, the recognition society in the field of civil engineering, fosters the development and exercise of fundamentally sound traits of character and technical ability among engineers which will work towards a higher standard of service offered to humanity by the profession. The West Virginia chapter was formed in 1949. Membership is open to outstanding members of the junior and senior classes.

Chimes. In June, 1948, Rhododendron, Junior women's honorary, became the West Virginia University Chapter of Chimes, a national honorary society. The purpose of Chimes is to honor those junior women who have shown loyalty to their University by giving their service and leadership. The members endeavor to develop higher ideals of leadership, service, and scholarship among college women. A scholastic standard must be met by all candidates. Candidates are elected in the spring and receive public recognition during Link Day services.

Eta Kappa Nu (Electrical Engineering). Eta Kappa Nu, an Electrical Engineering honorary society installed at West Virginia University in 1946, is open to students in the upper fourth of the junior class and in the upper third of the senior class.

Helvetia. Helvetia, a sophomore men's honorary, was organized at West Virginia University by Mountain in the spring of 1955. Helvetia serves to recognize outstanding men students who have achieved high scholarship and service during their freshman year. Helvetia promotes an active program for general orientation of freshmen entering the University.

Kappa Delta Pi (Education). Kappa Delta Pi, national honorary educational society, installed Alpha Upsilon chapter at West Virginia University on July 21, 1927. Election to this fraternity is conditional upon high scholarship and desirable personal and professional qualities.

Kappa Tau Alpha (Journalism). This is a national journalistic honor society with special emphasis on high scholarship and the best professional ideals. There are chapters in thirty-four universities. The West Virginia chapter was established in 1930.

Li-toon-awa. Li-toon-awa is the honorary for sophomore women who are chosen in the spring of their freshman year on the basis of outstanding achievement in scholarship, activities, leadership, and service to the University.

The primary purpose of the organization is that of guiding freshman women and assisting them in adjustment to college life and its problems. During the school term Li-toon-awa serves two teas in honor of these freshman women, one during Freshman Week and the other in the spring. Working throughout the year, Li-toon-awa elects and serves a project to complete the purpose of the organization.

Mortar Board. Laurel Chapter of Mortar Board, national women's honorary, was instituted at West Virginia University in 1924. The purpose of Mortar Board is "to promote college loyalty, to advance the spirit of scholarship, to recognize and encourage leadership, and to stimulate and develop a finer type of college woman." Qualifications for membership are service, scholarship, and leadership. New members are elected to Mortar Board in the spring from women who will have completed their junior year by the opening of the fall term. A scholarship standard must be met by each candidate.

Mountain. Mountain, organized in 1904, is the oldest senior men's honorary at West Virginia University. Mountain recognizes outstanding leadership and Univer-

sity service, and sponsors such working projects as the Mountaineer Week Team and the Homecoming Dance.

Omicron Nu (Home Economics). On October 16, 1951, Omicron Nu, national honor society in Home Economics, was established at West Virginia University. The society has as its purpose "the promotion of scholarship, leadership, and research, and the advancement of home economics throughout the world." Membership in Omicron Nu is based upon high scholarship and promise of future achievement. Only persons from the highest 20 per cent of the class are eligible for membership. Election is not permitted earlier than the fifth semester of the college course.

Order of the Coif (Law). A chapter of the Order of the Coif, national law school honor society was installed in 1925. Its members are selected by the law faculty from 10 per cent of the senior class in the College of Law ranking highest in scholarship.

Pershing Rifles (Military). Company S, 1st Regiment of the Pershing Rifles was installed at West Virginia University on 4 February 1956. Pershing Rifles seek to encourage, develop and preserve the highest ideals of the military profession, promote American citizenship, and to provide appropriate recognition of a high degree of military ability among R.O.T.C. cadets. Basic course cadets of the Army and Air Force R.O.T.C. who maintain a high standing in academic and military science subjects are eligible for membership.

Phi Beta Kappa (Scholarship). The Alpha of West Virginia chapter of the Phi Beta Kappa Society is established at the University. Stated meetings or public exercises of the Society are held twice annually; the anniversary meeting on December 5, and the annual meeting during Commencement Week. The honor of membership may be conferred upon candidates for the Degree of Bachelor of Arts, the Degree of Bachelor of Science (if they also meet the requirements for the former), or for the Degree of Doctor of Philosophy who have maintained a high scholarship rank during their college courses; also upon outstanding alumni of the University, and persons attaining national or international reputations in letters, science, or education.

Phi Epsilon Phi (Botany). Phi Epsilon Phi, botanical honor fraternity, was founded at West Virginia University in 1929. The fraternity has for its purpose promotion of high scholarship, inciting of interest in botanical research, and encouragement of professional ideals. Seniors and graduate students who are engaged in botanical work and who have attained a high standard of scholarship and character are eligible for membership.

Phi Lambda Upsilon (Chemistry). The Tau chapter of Phi Lambda Upsilon, national chemical honor fraternity, was established at the University in 1924. The chief object of the society is promotion and protection of high scholarship and original investigation of all branches of pure and applied chemistry. Seniors and juniors who have attained a high standard of scholarship and character are eligible.

Pi Delta Phi. The Alpha Omicron chapter of Pi Delta Phi, national French honor society was established at the University in 1950. The society has as its aims the recognition of merit in the study of French language, literature and civilization and the fostering of French culture. Membership is open to outstanding students of high scholarship, majoring or minoring in French language and literature, who have completed at least one upper-division course in French.

Pi Tau Sigma (Mechanical Engineering). The West Virginia Pi Gamma chapter of Pi Tau Sigma was installed at West Virginia University on March 31, 1942. This is an honorary mechanical engineering fraternity with chapters in thirty-five universities. Seniors and juniors in Mechanical Engineering who have attained high scholarship rank are eligible for membership.

Psi Chi (Psychology). West Virginia chapter of Psi Chi, national recognition society in the field of psychology, was formed November 15, 1948. Membership is open to psychology majors and minors who have a high scholastic average. The purpose of the society is primarily to advance the science of psychology and is further concerned with stimulating scholarship of the individual members in all academic fields.

Rho Chi (Pharmaceutical). Rho Chi, National Honorary Pharmaceutical Society, installed Alpha Mu chapter at West Virginia University, January 29, 1949. The object of the Society is "the promotion of scholarship and friendship and recognition of high attainments in the pharmaceutical sciences." A student elected to membership must have completed 75 hours of scholastic work, attained a scholastic average of "B" or better, shown capacity for achievement in the science and art of pharmacy

and the allied sciences as evidenced by strength of character, personality, and leadership; and be approved by the Dean of the School of Pharmacy.

Scabbard and Blade (Army). C Company, Second Regiment, West Virginia University, the National Society of Scabbard and Blade, was installed on May 21, 1916. The Society believes that military service is an obligation of citizenship and that the greater opportunities afforded college men for the study of military science place upon them certain responsibilities as citizens. The purpose is to create and unite in closer relationship the military departments of American universities and colleges; to preserve and develop the essential qualities of good efficient officers; to prepare themselves as educated men to take a more active part and to have a greater influence in military affairs of the communities in which they may reside; and above all to spread intelligent information concerning military requirements of our country. Advanced Course R.O.T.C. students who maintain high standing in scholarship, leadership, character, and efficiency are eligible for membership.

Sigma Gamma Epsilon (Earth Sciences). Upsilon chapter was established at West Virginia University in 1927. The fraternity has for its objects the social, scholastic, and scientific advancement of its members; extension of relations of friendship and assistance between the universities and scientific schools with recognized standing in the United States and Canada; and upbuilding of a national college society devoted to advancement of geology, mining metallurgy, and ceramics. Seniors and juniors in the courses indicated, who have attained high scholarship rank, are eligible for membership.

Sigma Gamma Tau (Aeronautical Engineering). The West Virginia Chapter of Sigma Gamma Tau was installed in 1955. The society recognizes and honors junior and senior students in aeronautical engineering who have through scholarship, integrity, and outstanding achievement been a credit to West Virginia University.

Sigma Pi Sigma (Physics). Theta chapter of Sigma Pi Sigma, national physics honor society, was installed in the University in 1929. The formal statement of objects of the society is: "To reward high scholarship and promote interest in the advanced study of physics, to stimulate individual research, and to enable its members to keep pace with the progress of science." A student elected to membership must be taking some course in physics at the time of his election. Graduate students who are taking advanced work in physics and related subjects are eligible for membership.

Sigma Xi (Scientific Research). The Society of the Sigma Xi is a national honorary society devoted to advancement of research in pure and applied science. Membership may be conferred upon faculty members and students who show outstanding ability in some field of scientific research.

Sphinx (Senior Men's Honorary). Sphinx, Senior Men's Scholarship Society, was established at West Virginia University in 1909. Its purpose is to accord suitable recognition to students of high standing in scholarship. The local chapter acts as a sponsor and preserve of all such college traditions as it may find worthy; and to act for the inspiration, betterment, and guidance of the Freshman Class.

Tau Beta Pi (Engineering). The West Virginia Alpha chapter of the national engineering honor association of Tau Beta Pi was established in the College of Engineering in 1922. Students who rank in scholarship among the upper one-eighth of their class are eligible to election in their third year and all who rank among the upper one-fourth of the class are likewise eligible in their fourth year. These together with alumni and honorary members constitute the chapter.

Xi Sigma Pi (Forestry). Xi Sigma Pi, forestry honor society, was established at West Virginia University on May 16, 1950. The objects of Xi Sigma Pi are "to secure and maintain a high standard of scholarship in forest education, to work for the upbuilding of the profession of forestry, and to promote fraternal relations among earnest workers engaged in forest activities."

OTHER UNIVERSITY ORGANIZATIONS

There are in the University various fraternities, sororities, societies and clubs devoted chiefly to social, educational, and athletic interests of students. Some of the more important of these organizations are:

Social Fraternities

Alpha Gamma Rho
Alpha Phi Delta
Alpha Sigma Phi
Beta Theta Pi
Delta Tau Delta
Kappa Alpha
Kappa Sigma
Lambda Chi Alpha
Phi Delta Theta
Phi Kappa Psi
Phi Kappa Sigma
Phi Sigma Delta
Phi Sigma Kappa
Pi Kappa Alpha
Pi Lambda Phi
Sigma Chi
Sigma Nu
Sigma Phi Epsilon
Tau Kappa Epsilon
Theta Chi

Social Sororities

Alpha Delta Pi
Alpha Phi
Alpha Xi Delta
Chi Omega
Delta Delta Delta
Delta Gamma
Gamma Phi Beta
Kappa Delta
Kappa Kappa Gamma
Pi Beta Phi

Professional Honorary Societies

Alpha Delta Theta (Medical Technology Sorority)
Alpha Kappa Psi (Economics)
Alpha Tau Alpha (Agricultural Education)
Beta Alpha Psi (Accounting)
Forestry Club
Journaliers (Journalism, Men)
Kappa Psi (Pharmacy)
Mu Phi Epsilon (Music, Women)
Phi Alpha Delta (Law)
Phi Alpha Theta (History)
Phi Beta Pi (Medical)
Phi Chi (Medical)
Phi Delta Phi (Law)
Phi Mu Alpha (Music, Men)
Phi Upsilon Omicron (Home Economics)
Pi Sigma Alpha (Political Science)
Theta Sigma Phi (Journalism, Women)

National and Local Student Organizations

Advanced Cadet Class
American Chemical Society
American Institute of Chemical Engineers
American Institute of Electrical Engineers and Institute of Radio Engineers, Joint Branch
American Institute of Industrial Engineers
American Institute of Mining, Metallurgical and Petroleum Engineers
American Pharmaceutical Assoc.
American Society of Agricultural Engineers
American Society of Civil Engineers
American Society of Mechanical Engineers
Associated Women Students
Block and Bridle Club
Cavaliers
Cavalettes
Collegiate FFA Chapter
Cosmopolitan Club
Dairy Science Club
Dolphin Swimming Honorary
Fi Batar Cappar
Home Economics Club
Il Circolo Italiano
La Tertulia
Mathematics Club
Men's Dorm Council
Mountaineer Party
Mountaineer Poultry Club
Mountaineer Rifle Club
Orchesis
Philosophical Society
Press Club
Pre-Veterinary Club
Recreation Major's Club
Society for the Advancement of Management
Student National Education Association
Student Party
Touche
University 4-H Club
University Religious Council
W.V.U. Chess Club
W.V.U. Society of Mining Engineers
Young Democrats Club
Y.M.C.A.
Young Republican Club
Y.W.C.A.

Fraternity Advisers

Alpha Gamma Rho, Dr. James A. Welch and Dr. I. D. Porterfield; Alpha Phi Delta, Mr. Frank Scalise; Alpha Sigma Phi, Dr. Newton Baughman; Beta Theta Pi, Edwin Crooks; Delta Tau Delta, Dr. Clyde L. Colson; Kappa Alpha, Dr. Dana Wells; Kappa Sigma, P. R. Jones; Lambda Chi Alpha, Robert Summers; Phi Delta Theta, Paul Kidd; Phi Kappa Psi, John Buchanan; Phi Kappa Sigma, Ralph White; Phi Sigma Delta, Dr. Victor Lemke; Phi Sigma Kappa, Don Bond; Pi Kappa Alpha, Dr. Jesse F. Clovis; Pi Lambda Phi, —; Sigma Chi, Stanley R. Cox, Jr.; Sigma Nu, Russell Grist; Sigma Phi Epsilon, Stanley Farr, Tau Kappa Epsilon, Carl Dennler; Theta Chi, Dr. K. C. Westover.

Sorority Supervision

Supervision of all sororities on campus is vested in the office of the Dean of Women.

STANDARDS OF STUDENT CONDUCT

Rules and regulations which students are required to observe are few, simple, and reasonable: civil and orderly conduct, reasonable diligence in performance of the work prescribed, and abstinence from vices.

The University maintains very stringent standards of honesty in academic work. Both students and faculty are committed to the discouragement of cheating in all forms. Uniform procedures for hearing, investigating, handling, and disposing of cheating cases are established throughout the University. Cheating is clearly defined and penalties for cheating are prescribed in detail in the student handbook.

All matters of discipline are under the jurisdiction of the Director of Student Affairs and the Committee on Discipline. No student may be expelled without approval of the President of the University.

Student Marriages

If any student under the age of twenty-one years, who has not been previously married, intends to marry within the school year, he or she must obtain the consent of the parents* or guardian before such marriage shall be solemnized, in accordance with the provisions of Section 8, Chapter 48, revised Code of West Virginia, 1931.

In order to insure obedience with both the letter and the spirit of this statute and the policy of the University such student must, no less than one week before said marriage, show satisfactory evidence to the Director of Student Affairs that the consent of the parents or guardian as required by the statute has been obtained.

In the event that such student does not make such showing to the Director of Student Affairs, regardless of where the marriage ceremony is performed, he or she may be suspended, and may only be reinstated upon showing satisfactory reason to the Council of Administration why he or she failed to comply with this regulation.

Where both parties to the marriage are students and one has not complied with the above rule, both may be suspended as provided above.

Faculty Organizations

American Association of University Professors. The West Virginia University chapter of American Association of University Professors now has a membership of approximately one hundred and twenty. The present officers are Robert S. Stilwell, president; William D. Barns, vice-president; and David W. Northup, secretary.

Faculty Club. The Faculty Club of the University, organized on March 10, 1921, is composed of teaching, research, and extension staffs of the University. Members of the various departments of the State of West Virginia working under University control also are eligible. The purpose of the club is to promote friendliness, fellowship, and good will among its members and to encourage closer ties between faculty members of the colleges, schools, and departments. A program of social activities is conducted throughout the fall and spring semesters. The Faculty Club has headquarters at 511 North High Street.

EMPLOYMENT AND PLACEMENT SERVICE

Student Employment

Students desiring part-time work may register with Miss Cornelia Ladwig, Placement Adviser.

*Of or the parent living, or, if the parents be living separate and apart, of the one to whom was accorded the custody of such person.

Until successful completion of one semester's University curricular work, freshmen should not attempt outside work unless absolutely necessary. Only the exceptional student can do so without danger to his scholastic status.

The Senior and Alumni Placement Service

The University Placement Service is maintained to provide assistance in vocational and job selection. This centralized service of the University does not end with placement of the student on his first job, but may be referred to at any time in the future.

The Placement Office is located on Hunt Street across from the Physics Building. In addition to registration procedures, which include counseling in the techniques of job application, this service analyses the changing market for graduates, assists alumni seeking promotion or change of position, cooperates with all individuals and agencies interested in placement, and is engaged in continuous research in the interest of improving these services. A meeting place is provided for students seeking jobs, visiting company and educational representatives, and faculty members whose comments are sought by employers.

A vocational library is maintained to assist any student having difficulty in deciding upon a career as well as to enable those graduating to review the kinds of opportunities available in their fields.

(The Placement Office cannot furnish credentials to commercial agencies.)

The Pharmacist's Register

A pharmacist's register for the benefit of both the employer and employee has been established by the School of Pharmacy. No charge is made for services rendered.

ADMISSION, REGISTRATION, FEES, RE-ADMISSION

ADMISSION TO UNDERGRADUATE COLLEGES AND SCHOOLS[1]

Candidates for admission to the University may be admitted either by examination or on the basis of offical transcript of record. Residents of West Virginia, applying for admission on the basis of graduation from a preparatory school with a minimum of 15 units of high school work acceptable to the University, may be admitted by satisfying one of the following requirements:

1. Rank in the upper three-quarters of the graduating class.
2. Present a minimum average of "C."
3. Qualify for admission to the University on the basis of testing and/or interview.

The various colleges, school, divisions, and departments of the University may establish additional requirements for admission. Transcripts of secondary school record must be sent by the principal directly to the Registrar of the University. Transcripts must be received by the Registrar of the University at least three weeks prior to the beginning of the term or semester in which the applicant is interested. The transcripts received in support of applications for admission become the property of the University and are permanently filed in the Office of the Registrar.

Applicants for admission who do not have transcripts showing graduation from accredited secondary schools[2] on file in the office of the Registrar of the University or who do not have official transcripts from colleges or universities previously attended on file in the office of the Registrar of the University, may, at the discretion of the Committee on Admissions, be permitted to register provisionally. If satisfactory transcripts cannot be obtained, the registration will be cancelled and the fees paid by the applicant will be returned in accordance with the University refund schedule. A provisional registration will not ordinarily be continued for a period longer than one week.

Conditional Admission. Students must make up all deficiencies before they can be classified as sophomores.

[1]Administered by the University Committee on Admissions.
[2]In accrediting West Virginia secondary schools the University follows the classification made by the State Department of Education.

Entrance Unit Defined

Requirements for admission to colleges, schools, and divisions of the University are stated in terms of units.

A unit in any subject represents the amount of work that may be done in a standard high school in a year of thirty-six weeks, with five recitation periods per week, of no less than forty minutes each. In courses in which laboratory work is required, from two to three periods of laboratory work are considered the equivalent of one period of recitation according to the amount of outside preparation required in connection with such work.

Graduates of accredited schools may receive credit for work certified with the understanding, however, that no student may enter any college, school or division until he has credit for 15 units, *i.e.*, the work of the standard four-year college preparatory course.

Prescribed and Elective Units

A. Graduation from high school and fifteen units of high-school work acceptable to the University are required for admission.

B. The following groups are required:

(1) Four units in English[3]

(2) Three units in a second subject

(3) Two units in each of two other subjects

C. The work in "A" must include the following:

For admission to all colleges and schools, 1 unit in elementary algebra.

For admission to the College of Agriculture, in the case of students who elect agriculture or forestry as their major field of study—1 unit in elementary algebra and 1 unit in plane geometry.

For admission to Agricultural Engineering—1 unit in elementary algebra, ½ unit in intermediate algebra, 1 unit in plane geometry, and ½ unit in solid geometry.

For admission to the College of Arts and Sciences, in the case of students who intend to elect chemistry, geology, mathematics, physics, predental, premedical or premedical technology studies as their major field of study—1 unit of elementary algebra and 1 unit in plane geometry.

For admission to the College of Engineering or the School of Mines—1½ units in algebra, 1 unit in plane geometry, and ½ unit in solid geometry.

For admission to the School of Pharmacy—1 unit in elementary algebra, 1 unit of plane geometry, 1 unit in history, and 1 unit in science.

D. Work in the following subjects not to exceed the number of units placed after each subject will be accepted:

[3]A student may enter the University with 3 units in English and satisfy admission requirements by making a satisfactory grade on the English Placement Test, or by successfully completing English 0, or English 1.

In the College of Engineering, the School of Mines, and the Department of Agricultural Engineering, a student may enter with only 3 units in English if he also presents for entrance 2 units in one foreign language.

Subject	*Units*
English	4
Journalism	1
Speech	1
Foreign Languages[4]	
French	3
German	3
Greek	3
Italian	3
Latin	4
Spanish	3
Mathematics	
General	1
Algebra	2
Plane Geometry	1
Solid Geometry	½
Trigonometry	½
Drawing	
Free-hand drawing	1
Mechanical drawing	1
Aeronautics	1
Art	1
Education	2
Music	2
Health	1
Physical Education	1
Science[5]	
Botany[6]	1
Biology[6]	1
Chemistry	1
General Science	1
Geology	1
Physical geography	1
Physics	1
Physiology	½
Zoology[6]	1
Social Science[7]	3
History	3
Social Science	3
Vocational Subjects (not to exceed five units)	
Agriculture	4
Home Economics	3
Industrial training	3
Bookkeeping, or bookkeeping and commercial arithmetic	2
Commercial arithmetic (alone)	½
Commercial law	½
Shorthand	2
Typing	1

Advanced Standing Examination

Application for advanced standing on work of college grade for which college credit cannot be established on the basis of official transcript of record, should be made to the Registrar of the University not later than two weeks after the applicant's matriculation. Upon payment of the proper fee the Registrar will issue an examination permit. After examination, the department will report to the Registrar the University courses, if any, which the applicant is entitled to credit.

SPECIAL REQUIREMENTS FOR ADMISSION

General

Transcripts of college or university record must be sent by the registrar of the other institution directly to the Registrar of the University. All applicants for transfer must present an average based on all work attempted at other institutions of higher education equivalent to a West Virginia University average of "C" (2.000) or higher. The various colleges, schools, divisions, or departments of the University may establish additional requirements for transfer.

THE COLLEGE OF COMMERCE

Applicants seeking admission to the College of Commerce for the purpose of obtaining a degree must have earned at least 58 semester hours of required and approved elective courses in the lower-division curriculum at a grade average of not less than "C."

[4]One unit of Latin will be accepted. No less than 2 units of either French, German, Greek, Italian, or Spanish will be accepted unless sufficient additional work in that language is taken in college to complete a minimum of 2 units.

[5]A group of 2 or 3 units in science may be made by combining one unit each of any two or three of the following: biology, botany, chemistry, geology, physics, and zoology.

[6]If a student presents one unit in biology for admission, he may have credit for no more than ½ unit in either botany or zoology.

[7]A group of 3 units may be formed by combining 2 units of history with one unit of social science, or by combining one unit of history with two units of social science.

THE SCHOOL OF DENTISTRY

In order to be considered for admission to the School of Dentistry, the applicant must be a graduate of an accredited high school with fifteen units of entrance credit which shall include four units of English, one unit of elementary algebra, and one unit of plane geometry.

Applicants for admission must present evidence of having completed successfully two full academic years (60 semester or 90 quarter hours) of work in the liberal arts in an accredited college based on the completion of the prescribed four year high school course. All science courses shall include both lecture and laboratory instruction. The college courses shall include not less than six semester hours credit each in English Composition and Rhetoric, Biology (perferably zoology), in physics, in inorganic chemistry and in organic chemistry. Credits earned in physical education and military science will not be considered.

A dental aptitude testing program is sponsored by the Council on Dental Education of the American Dental Association and approved by the American Association of Dental Schools. Applicants for admission to the School of Dentistry are required to take the aptitude tests and to submit the resulting scores. The scores achieved on these tests will be considered as a factor in the selection of students. The tests may be taken in any one of the forty-six dental schools, or any one of forty testing centers set up in colleges and universities throughout the United States. Information concerning the places, and the dates on which the tests will be given, may be obtained from the Secretary of the Council on Dental Education, care of the American Dental Association, 222 East Superior Street, Chicago 11, Illinois.

A personal interview with the Committee on Admissions is required. Interviews will be held at the Medical Center, West Virginia University, and will be arranged as far as possible, to suit the convenince of the applicant.

Good physical and mental health are essential for the successful study and practice of dentistry. Good eyesight is particularly important. The applicant who is admitted to the School of Dentistry must present on or before the day of enrollment, a certificate from his opthalmologist stating the condition of his eyes, and if any correctible defects in vision exist he shall present evidence that proper corrections have been made.

A deposit fee of twenty-five dollars is required when the applicant accepts offer of admission. This amount will be applied as part-payment of tuition fee when the applicant registers for the first semester. The deposit will be forfeited if the applicant fails to register.

Further details concerning admission requirements of the School of Dentistry may be obtained by writing to the Assistant Registrar, Medical Center.

THE COLLEGE OF EDUCATION

Requirements for admission to the College of Education shall be the completion of 58 semester hours of approved college work, with an average of at least 2 grade points per credit hour. Candidates for a Bachelor's Degree in Education register for their first two years of work in the College of Arts and Sciences. Freshmen and sophomores who expect to enter the College of Education will indicate their intention when they register. Their studies will be directed by advisers for pre-education students. Such students should so order their courses of study as to satisfy requirements for junior standing and should be fulfilling requirements for the certification of teachers.

THE COLLEGE OF ENGINEERING AND SCHOOL OF MINES

In order to transfer from another college, school or university, the following requirements must be met:

A. The applicant must have a grade-point average of 2.000 or higher for all college level courses (English 0, Mathematics 0, Mathematics 1, Mathematics 2, and Mathematics 7 count for entrance only).

B. The student must have a grade-point average of 2.000 or higher for all mathematics courses excluding only Mathematics 0 and Mathematics 1.

C. Applicants deficient in Solid Geometry may be admitted provided they present thirty semester hours, with a grade of "C" or higher, of transfer credit applicable toward their degree.

THE SCHOOL OF JOURNALISM

A candidate seeking admission to the School of Journalism with the view of obtaining a degree must have satisfied requirements for matriculation in one of the University undergraduate colleges and must have earned at least 58 semester hours of college credit. A student deficient in the physical education service program and military science will be required to take these subjects as soon as possible. During his freshman and sophomore years he should have completed satisfactorily all or most courses specified for prejournalism majors. A prejournalism student not maintaining at least a "C" average during his first two years in all college subjects is strongly advised not to enroll in the professional school.

THE COLLEGE OF LAW

Application forms may be obtained from the Registrar of the University. Every applicant for admission must request the proper registrars to send directly to the Registrar of the University at least one month prior to registration a complete transcript of record in every college or university attended. Evaluation of credentials is made by the Registrar of the University.

No applicant will be admitted who previously shall have attended another law school and who shall be ineligible to return to that school in good standing. No applicant will be admitted who has been convicted of a crime which is ground for the annulment or suspension of a license to practice law in West Virginia.

Beginning with the class entering the College of Law in September 1959, all candidates for the degree of Bachelor of Laws must present a baccalaureate degree from an institution of approved standing. Any degree from such an institution will be regarded as satisfying the requirements for admission provided that, in the opinion of the Scholarship Committee of the College of Law, the degree satisfies the entrance requirements of the Association of American Law Schools.

Beyond the general requirement as to acceptable credits, the College of Law does not prescribe the courses which must be presented for admission. It is essential, however, that a student, before entering upon the study of law, should have a thorough grounding in English, particularly English composition. A student will not be graduated with the degree of Bachelor of Laws if he is markedly deficient in the use of English; and if it appears upon his written examinations that he is seriously handicapped in this regard, he will be required to correct the deficiency before he is permitted to continue in the College of Law. A student should also have a comprehensive grounding in history, particularly American History and constitutional history, and in general, in enough of the social sciences and humanities to give him a broad informational and cultural background and to develop in him a disciplined reasoning faculty. It is desirable to include some courses in mathematics, accounting, economics, and Latin. The individual needs of the student, however, may well be considered and it is therefore inadvisable to lay down fixed rules.

Applicants for admission to advanced standing must satisfy the ordinary requirements for admssion to the first-year class, must have successfully pursued the study of law in a school which if in the United States is a member of the Association of American Law Schools, and must have received credit for courses equivalent to those required of students in the College of Law. Such applicants must have received an average of "C" or its equivalent on all work taken at such other law school or law schools. The extent of credit allowed for work done elsewhere is determined by the Scholarship Committee. A student will not be allowed credit, however, for work carried in another law school unless the student receives thereon a grade of "C" or its equivalent.

THE SCHOOL OF MEDICINE

In addition to high-school requirements, the applicant for admission to the School of Medicine must have credit for at least three years of work in a college of recognized standing. This must include 90 hours of credit exclusive of military science and physical education.

The 90 hours of credit include the following subjects and hours: English composition, 6 hours; physics, 8 hours; biological sciences, 12 hours (mainly zoology and comparative anatomy); chemistry, 20 hours (including 6 hours organic); psychology, 3 hours; a modern foreign language, 12 hours (German or French preferred); Latin, 6 hours recommended if no high-school Latin has been taken.

Selection of Students. The number of students the medical school can accommodate is strictly limited. Applications for admission are considered by the Committee on Admission of the School of Medicine, which select those with the highest qualifications of scholarship and personal fitness. An important factor is the score of the applicant in the Medical College Admissions Test sponsored by the Association of American Medical Colleges and given at suitable times. Students should consult premedical advisors about this test or should write to Educational Testing Service, P.O. Box 592, Princeton, New Jersey. Applications for admission may be made as much as a year in advance of the opening date. Only *bona fide* residents of West Virginia may be considered for admission.*

Further details concerning admission requirements of the School of Medicine may be obtained by writing to the Assistant Registrar, Medical Center. A full statement concerning suggested premedical courses is to be found in Part II of this *Catalog.*

THE SCHOOL OF MUSIC

Students who meet University entrance requirements are admitted to the School of Music either by examination or on certificate from an accredited secondary school. Students majoring in Music will be expected to have acquired previously a background in the fundamentals of music and a fair ability in music reading. All students will be examined at least twice a year, in January and in May, to determine the progress made.

Students transferring to the School of Music from other colleges and schools will be required to present a minimum average of 2.0. Exceptions may be made in the case of first semester freshmen.

In the School of Music special provision may be made to permit talented individuals to take work in Applied Music without credit.

Advanced standing in applied music is given only by examination. Persons desiring such standing should enroll at the beginning of the semester, and after they have become thoroughly familiar with the requirements for each semester's work, they may apply to the Registrar of the University for a special examination in which they may prove their ability to meet the requirements as outlined.

THE SCHOOL OF PHARMACY

Students may be admitted to the School of Pharmacy either on transcript from an accredited secondary school, or as transfer students from other divisons of the University and from other colleges or universities. The number of students that can be admitted is definitely limited. Experience has shown that the successful applicants have been those who rank within the upper one-third of their high-school graduating classes, in the case of those entering directly from high school, or who had an average of "B" or better in the case of those transferring to the School of Pharmacy with college credit.

Selection is made from the better-qualified students having applications and complete material on file by June 1. Because of the limited facilities of the pharmacy laboratory courses, students admitted with advanced standing are accepted with the understanding that the best possible schedule will be arranged at the time of admission.

Preference is given to residents of West Virginia.

Careful consideration is given to those personal qualifications which have a bearing upon the fitness of the applicant for the study and practice of pharmacy.

All applicants for admission to the School of Pharmacy are required to take a battery of tests which will be given on the campus the second Saturday in June just prior to the academic year the applicant desires to enter Pharmacy. The testing program will begin at 8:00 A.M. and will conclude by 12:00 M. Qualified applicants will be given appointments for interviews with members of the staff of the Registrar of the University and with members of the staff of the School of Pharmacy.

Transcripts of secondary-school records must be sent by the principal directly to the Registrar of the University immediately after the student's graduation; transcripts of college or university record must be sent by the registrar of the other institution directly to the Registrar of the University immediately after the student has completed his work in that institution. The transcripts received in support of applications for admission become the property of the University and are permanently filed in the office of the Registrar.

*See footnote 25, page 77.

No student shall be permitted to complete the course in Pharmacy in less than three collegiate years in a college of pharmacy, regardless of the amount of credit offered for advanced standing. This is in accordance with the by-laws of the American Association of Colleges of Pharmacy.

Special Students

Persons who do not desire to become candidates for a degree may, by permission of the Committee on Admissions and the dean of the college which they desire to enter, be admitted as special students, subject to the following provisions:

1. Special students must be twenty-one years of age or veterans of the armed forces of the United States.
2. Special students must satisfy at least 9 units of the requirements for admission, including 2 units of English.
3. Every application for admission as a special student must be presented in writing to the Committee on Admissions and must set forth fully the applicant's reason, together with a detailed statement of studies he desires to pursue.
4. Special students are subject in all respects to the usual rule relating to registration and scholarship. They may be assigned to classes for which they apply, it being understood, however, that admission to any class rests entirely with the instructor in charge, and further, that admission to any class when so granted does not necessarily imply credit for prerequisites.

Credit Accepted from a Junior College

The maximum credit accepted from a junior college accredited by the North Central Association of Colleges and Secondary Schools or other regional accrediting association will not exceed seventy-two (72) semester hours, and credit will be allowed for lower-division courses only. No credit will be allowed for courses completed in a junior college subsequent to attainment of junior or higher rank by the student at the University.

VETERANS

The University recognizes that men and women from the Armed Forces who enter college require individual and personalized guidance in order to facilitate their entrance into the Unversity and to aid their adjustment to University life. The Veterans' Coordinator is available for consultation and help in the solution of personal problems which may arise in the transition to civilian student life.

Information regarding educational opportunities made possible at the University through provisions of the Service Men's Readjustment Act of 1944 (G.I. Bill of Rights), Public Law 550, and the Vocational Rehabilitation Program of the Veterans Administration (Public Law 16), and the War Orphan's Educational Assistance Act of 1956 (Public Law 634) may be obtained from the Veterans' Coordinator by personal conference or by mail.

Veterans may be admitted to the University by the Committee on Admissions by any of the following methods:

1. Graduation from an accredited preparatory school.
2. Presentation of 15 units of high-school work without graduation.
3. Advanced standing from other accredited colleges or universities.
4. Evidence of sufficient maturity and ability to do college work furnished by the use of United States Armed Forces Institute tests. Training of any kind received in the service will be considered, and, if possible, evaluated for entrance or college credit.
5. Veterans who present at least 9 units of entrance credit may be admitted as special students.

An honorably discharged veteran of the armed forces of the United States with a minimum of one year active duty shall be exempted from any additional work in Basic Military and in the Physical Education general program on submission of due proof thereof to the Registrar of the University.* Students with six months but less than one year service are exempted from taking the first year of Basic Military (Military or Air Science 1 and 2). Scholastic hours credit will be allowed for military training for which a student is exempted.

*See page 19.

ADMISSION TO THE GRADUATE SCHOOL

Applicants holding bachelor's degrees from West Virginia University or from other accredited institutions may be admitted to the Graduate School. The applications for admission must be filed with the Registrar of the University, who will forward the applications to the Dean of the Graduate School. The applicant must request the registrar of the college or school previously attended to send an official transcript directly to the Registrar of the University. The applications and transcript should be received by the Registrar of the University at least one month in advance of registration days. Application forms may be obtained from the Registrar of the University.

Admission to the Graduate School does not constitute acceptance of the student by the major department of his choice. It merely grants the student permission to seek admission to the department. It is the responsibility of the student to make this contact at once to determine if he will be accepted by the department desired.

Undergraduate deficiencies, generally unsatisfactory background, or lack of adequate facilities in a given department may prevent acceptance by the department. In such instances, the student either must seek acceptance by another department or register as a "special" student. A "special" student is not a candidate for an advanced degree.

The Dean of the Graduate School and the head of the department in which the student desires to do his major work will advise him concerning departmental prerequisites for admission, candidacy for an advanced degree, and major and minor advanced degree requirements.

Eligible students who wish to further their education without reference to higher degrees may be admitted to the Graduate School and may elect courses for which they can satisfy the prerequisites.

Graduate Degrees

Graduate degrees offered by departments in the University which have been approved for graduate work are:

Master of Agriculture (M.Agr.)
Master of Arts (A.M.)
Master of Home Economics (M.H.E.)
Master of Music (Mus.M.)
Master of Science (M.S.)
Master of Science in Aeronautical Engineering (M.S.A.E.)
Master of Science in Agricultural Engineering (M.S.Agr.E.)
Master of Science in Chemical Engineering (M.S.Ch.E.)
Master of Science in Civil Engineering (M.S.C.E.)
Master of Science in Electrical Engineering (M.S.E.E.)
Master of Science in Industrial Engineering (M.S.I.E.)
Master of Science in Mechanical Engineering (M.S.M.E.)
Master of Science in Mechanics (M.S.Mech.)
Master of Science in Engineering of Mines (M.S.E.M.)
Master of Science in Nuclear Engineering (M.S.N.E.)
Master of Science (Home Economics Education) M.S. (H.E.Ed.)
Master of Social Work (M.Soc.Wk.)
Doctor of Philosophy (Ph.D.)
Doctor of Education (Ed.D.)

Professional Degrees

The following professional degrees are conferred upon graduates of the College of Engineering and the School of Mines of West Virginia University on the basis of practical experience and study in absentia, the presentation of a thesis, and an oral final examination.

Aeronautical Engineer (A.E.)
Chemical Engineer (Ch.E.)
Civil Engineer (C.E.)
Electrical Engineer (E.E.)
Mechanical Engineer (M.E.)
Engineer of Mines (E.M.)

REGISTRATION

Persons who are not registered as students in the University and who are not members of its administrative or teaching staffs shall not be admitted to regular attendance in University classes.

All students are expected to register on days set apart for registration at the beginning of each semester or term of the University. All freshmen are required to take intelligence, placement, medical, and physical tests.

Immediately after completion of their registration, all students are expected to pay their fees at the Comptroller's desk in the Field House.

West Virginia Board of Education Regulation for Certification of Teachers

One hundred semester hours of the one hundred twenty-eight required for certification shall be completed in regularly scheduled campus courses. The twenty-eight hours of permissible nonresidence courses may be earned by extension, home study (correspondence), radio, television, special examinations and/or army service. Eighteen of the twenty-eight hours may be applied to a Second Class Elementary Certificate and twelve hours to a Third Class Elementary Certificate. Any teacher who may be penalized by the revised ruling because of credits earned before June 1, 1954, may be certificated under present regulations.

Visitors

Full-time students who are presently registered in the University may attend classes as visitors, provided they obtain the written permission of their advisers and of the instructors in classes they desire to visit. Members of the administrative or teaching staffs, or other regular employees of the University, may attend classes as visitors provided they obtain written permission of the heads of their departments and of the instructors in the classes which they desire to visit.

No record is kept of the work and attendance of persons admitted to classes as visitors and no credit is given for their work in such classes.

Persons eligible to attend classes in the University as visitors may obtain the proper blanks from the Registrar.

Auditors

Students may enroll in courses without working for grade or for credit by registering as auditors and by paying full fees. Credit or audit status must be indicated at the time of registration. *No change in status from audit to credit or from credit to audit will be made at any later date.*

Late Registration

No student will be permitted to register in the University after the eighteenth day of a semester or the ninth day of either term of the Summer Session, without the special permission of the dean of the college or the school which he proposes to enter. No student registering late will be permitted to enroll for more hours of work than the number of weeks in actual attendance without the permission of the Committee on Scholarship of the college or school concerned.

Withdrawal from the University

A student who desires to withdraw from the University must obtain a withdrawal card from the office of the Registrar, 103 Administration Building. Withdrawal procedure will be explained to him when he obtains this card.

Students who withdraw from the University without permission will receive at the end of the semester a grade of "F" (failure) in each of the courses for which they are registered and will be indefinitely suspended from the University.

Students who desire to drop part of their work may withdraw from classes in which they are enrolled with a grade of "W" at any time prior to the end of the second week following the date set for mid-semester reports. Withdrawal permits must be approved by the adviser and accepted by the Registrar. If such withdrawal reduces the student's hours below the required minimum, the permit must be

approved by the Scholarship Committee. Withdrawals after the above date will be permitted only in exceptional cases and must be approved by the Scholarship Committee of the college or school in which the student is registered.

Return of Books to the Library

Students must present a signed statement from the Librarian that they have returned all books and paid all library fines incurred before they withdraw. No student will be allowed to graduate before paying all fines and returning all Library books.

Re-entry after Withdrawal

Students required to withdraw from one college or school of the University because of failure in their work and permitted to transfer to another unit of the University may not again register in the college or school in which they were originally registered without the consent of the Scholarship Committee of that college or school.

College Credit Defined

A college credit or semester hour represents the amount of work done in one semester in one recitation hour with two preparation hours a week. From two to three hours of laboratory work are considered equivalent to one hour of recitation, according to the amount of outside work assigned in connection with the laboratory hours.

Adviser

The college or school in which a student is enrolled shall have jurisdiction over the course of study of that student. Each student upon entering the University is assigned to an adviser, whose duty it is to assist the student in his registration, to keep a record of his work, and to report his registration and standing to the Registrar as required. The adviser approves the student's program of studies, sees that all prescribed work is taken in proper sequence, approves the selection of elective courses, and assists the student generally in planning his course of study so that he may proceed systematically and without conflicts. Changes in registration must always have the approval of the adviser. The student will look to his adviser for guidance in all matters pertaining to his work.

Maximum and Minimum Work

The maximum and minimum number of hours per semester as well as the maximum number of hours per year for which a student may register during the regular academic year of the University are as follows:

	Minimum Hours per Semester	*Maximum Hours per Semester*	*Year*
Agriculture	12	20	..
Arts and Sciences	14	20	..
Commerce	14	18	..
Dentistry	16	22	..
Education	..	18	36
Engineering and Mechanic Arts	14	20	..
Forestry	14	20	..
Home Economics	14	18	34
Journalism	14	18	36
Law	13	16	..
Medicine	17	20	..
Mines	12	20	..
Music	14	20	..
Pharmacy	14	20	..
Physical Education and Athletics	14	20	..

Work of the Summer Session is equivalent in character to that of the regular year. One hour's credit per week is a normal load for either term; but in order to facilitate scheduling of courses, undergraduate students may carry 7 hours if the periods are seventy-five minutes in length.

A student desiring to do irregular work, more or less than the prescribed number

of hours in any college, must obtain permission from the Committee on Scholarship in his college or school. This permission is not valid until it has been reported to the Registrar for record.

Substitution for Required Courses

A student who desires to substitute another course for any course prescribed in his curriculum or required for the degree toward which he is working must obtain permission for such substitution from the Committee on Scholarship in his college or school, but there can be no substitution from group to group.

REQUIREMENTS FOR DEGREES

Candidates for degrees are eligible for graduation upon completion of the requirements, in the college or school in which they are registered, which were in effect at the time of their first registtration in that college or school, provided they apply for graduation within a period of seven years from the time of their first registration. Students who fail to complete the requirements for graduation within seven years from their first registration in the college or school in which they are candidates for degrees shall satisfy the requirements in effect at the time they apply for graduation.

All University degrees are conferred by the Board of Governors upon recommendation of the faculties of the various colleges and schools. Degrees are granted at the close of the semester or Summer Session term in which the students complete their work.

Candidates for degrees to be conferred at the close of the second semester must be present in person to receive their degrees unless excused by the deans of their colleges and schools. No individual may be exempt from the provisions of this University regulation except by official action of the Board of Governors of the University.

Baccalaureate Degrees

CREDITS AND GRADE POINTS REQUIRED

Less than 6 hours in an ancient or modern language will not be counted toward any University degree, diploma, or certificate unless work in the same language has been offered for entrance.

Six hours of English composition and rhetoric (English 1 and 2) are required of all candidates for the Bachelor's Degree in all colleges and schools of the University.

Eight hours of basic military science and tactics or air science are required of all freshmen and sophomore men not specifically exempt.[8]

Enrollment in the advanced courses Army ROTC or Air Force ROTC is elective on the part of those students who may be selected by the President of the University and the Professor of Military Science and Tactics or the Professor of Air Science, under regulations prescribed by the Secretary of the Army or the Secretary of the Air Force. Each student who shall have been enrolled in either advanced course shall complete that course and, if tendered, accept a commission in a reserve component of the Army or the Air Force upon completion of the course as a prerequisite for his graduation from the University, unless he is excused from this requirement by the authority of the Secretary of the Army or the Secretary of the Air Force.

Two hours of physical education for men (P.E. 1 and 2), to be taken during the first year in residence, and four hours of physical education for women (P.E. 3-25, 101-102), to be taken during the first and second years in residence, are required for graduation, except in the case of students entering with advanced standing amounting to 58 semester hours or more.

Each undergraduate who began college work after June 1, 1952, must pass a proficiency examination in English, after the beginning of his junior year in order to qualify for graduation.* He shall take the examination during the first semester of his junior year, and if not declared proficient, shall repeat the examination as many times as necessary. The examination shall be administered by the English Proficiency Board.

Each baccalaureate degree is conditioned upon the completion of a specified number of semester hours of credit. For a tabular statement of the number of credit hours required for each degree, see the last column on page 69 under the caption "Classification of Students."

[8]See pages 17, 18, 19.

*This proficiency examination is not required of students of foreign citizenship whose native language is other than English.

All divisions of the University require minimum standards of scholastic quality. Grade points are computed only on grades earned at West Virginia University (including Potomac State College of West Virginia University). To be eligible for graduation, a student must have an average of "C" or an average of two grade points on all work for which he received grades (except "W" and "WP"). The College of Education, in addition to the general average of two grade points per credit hour in all subjects, requires an average of two grade points per hour of credit in Education and in each teaching field.

It is the student's responsibility to keep informed of his grade-point standing. This information may be obtained at any time from the dean of the college, school, or division in which the student is registered.

GRADUATION WITH HONORS AND WITH HIGH HONORS

Effective June 1, 1949, the University established the practice of awarding "Honors" and "High Honors" to qualified students who are candidates for their initial baccalaureate degrees. (Candidates from the College of Law are excluded.) The following regulations govern these awards:

1. The computation of the average shall begin with the student's penultimate term or semester and continue in reverse chronological order until at least 54 semester hours have been counted. If, in order to total the required number of hours, it is necessary to include any part of a semester or term the work of the whole semester shall be included.
2. No graduate shall be eligible for honors unless he shall have completed at least half of the semester hours required for his degree in West Virginia University.
3. The senior year must be at the University.
4. No graduate shall be eligible for honors if his grade-point average for his final semester or term is less than 3.0
5. Subject to the above condition, all candidates for a baccalaureate degree whose average, as shown by the portion of the work used, is 3.6 or above, shall be graduated with "High Honors." All those whose average is less than 3.6 but 3.3 or above, shall be graduated with "Honors."
6. Fitting recognition of graduation with honors shall be made on the candidate's diploma and on the commencement program.

REQUIREMENTS AS TO RESIDENCE

Students who come to the University from other colleges or universities are advised to make the transfer not later than the beginning of their third year and in no case will a student who matriculates in the University later than October 1 in any year be permitted to receive a degree at the next commencement.

In special cases students who desire to leave the University at the close of their third year to enter another institution with the purpose of taking a combined course leading to two degrees or of preparing for graduate study may upon application beforehand to the Committee on Scholarship of the college or school in which they are registered, be permitted to do the work of the fourth year, or a part thereof, at such other institution and to receive the Bachelor's Degree from the University upon the presentation of the proper credits.

Except in the College of Law, no student will be granted a Bachelor's Degree by the University who has not done either a total of 90 hours or the last 30 hours of his work in actual residence at the University.

No student may receive the Degree of Bachelor of Laws without at least three semesters in residence at the College of Law and the successful completion of courses aggregating at least one-half of the total number of hours required for graduation.

WORK DONE OUT OF RESIDENCE

It is the policy of the University to discourage the taking of regular residence courses in absentia. In the cases of courses begun at the University and not completed because of illness or for other acceptable reasons, however, permission to complete the work in absentia under the direction of the regular University instructors giving the courses may be granted by the Committee on Scholarship, but in such case credit should be given only upon a report of the grade of no less than "C" on final examination.

This regulation does not apply to University extension courses.

CREDIT IN CORRESPONDENCE WORK

Credit up to a maximum of 30 semester hours for work completed by correspondence in non-laboratory courses will be accepted by the University when such work is given by accredited colleges or universities that accept this work for credit toward their own degrees and whose residence work is accepted by West Virginia University.

CLASSIFICATION OF STUDENTS

The following table shows the number of semester hours required for classification as second-year, third-year, and fourth-year students and for graduation, according to the curricula in the several colleges, schools, and divisions. First-year students must satisfy the requirements for admission as set forth on pages 57, 58 and 59.

COLLEGE AND DEGREE	HOURS REQUIRED TO CLASSIFY AS Second-Year Student	Third-Year Student	Fourth-Year Student	Required for Degree
AGRICULTURE, FORESTRY, AND HOME ECONOMICS				
B.S. (Bachelor of Science)	26	64	100	144
B.S. in Agriculture (B.S.Agr.)	26	64	100	144
B.S. in Forestry (B.S.F.)	30	70	110	150
B.S. in Home Economics (B.S.H.E.)	25	58	92	128
AGRICULTURE & ENGINEERING				
B.S. in Agr'l Eng'g (B.S.Agr.E.)	30	72	112	148
ARTS AND SCIENCES				
Associate in Arts (A.A.)	25	..	..	64
Bachelor of Arts (A.B.)				
Regular	25	58	92	128
Premedical	32	58	96	128
Combined (Dentistry)[9]	32	58	96	132
Combined (Medicine)[10]	32	58	96	132
BACHELOR OF SCIENCE (B.S.)				
Geology	32	58	99	132
Chemistry	34	69	103	136
Combined (Medicine)[11]	32	58	96	132
Nursing Education	25	58	92	128
Physics	34	69	103	136
Social Work	25	58	92	128
COMMERCE				
B.S. in Bus. Ad. (B.S.Bus.)	..	58	92	128
B.S. in Economics (B.S.Ec.)	..	58	92	128
DENISTRY				
Doctor of Dental Surgery (D.D.S.)	33	67	110	151
EDUCATION[12]				
B.S. in Elem. Educ. (B.S.E.Ed.)	..	58	92	128
B.S. in Secondary Educ. (B.S.Sec.Ed.)	..	58	92	128

[9]Fourth year in the School of Dentistry.
[10]Fourth year in the School of Medicine.
[11]Third and fourth years in the School of Medicine.
[12]For the Degrees of Bachelor of Science in Education, at least 10 hours of residence work must be in Education.

COLLEGE AND DEGREE	HOURS REQUIRED TO CLASSIFY AS Second-Year Student	Third-Year Student	Fourth-Year Student	Required for Degree
ENGINEERING[13]				
Bachelor of Science	27	60	94	133
B.S. in Aero. Eng'g (B.S.A.E.)	30	72	112	148
B.S. in Chem. Eng'g (B.S.Ch.E.)	30	72	112	148
B.S. in Civil Eng'g (B.S.C.E.)	30	72	112	154
B.S. in Elec. Eng'g (B.S.E.E.)	30	72	112	148
B.S. in Ind. Eng'g (B.S.I.E.)	30	72	112	148
B.S. in Mech. Eng'g (B.S.M.E.)	30	72	112	148
JOURNALISM				
B.S. in Journalism (B.S.J.)	..	58	92	128
LAW				
Bachelor of Laws (LL.B.)	21	50	..	81
MEDICINE				
Bachelor of Science (B.S.) Medical Technology	25	58	100	135
MINES				
B.S. in Eng'g of Mines (B.S.E.M.)	30	72	112	154
MUSIC				
Bachelor of Music (B.Mus.)	30	64	102	136
PHARMACY				
B.S. in Pharmacy (B.S. Pharm.)	30	70	108	142
PHYSICAL EDUCATION AND ATHLETICS				
Bachelor of Science in Physical Education (B.S.P.E.)	28	58	92	128
Bachelor of Science in Recreation (B.S.Rec.)	28	58	94	130

EXAMINATIONS AND REPORTS

COURSES

As a rule courses extend through one semester only.[14]

EXAMINATIONS

MID-SEMESTER AND FINAL EXAMINATIONS

In practically all courses offered in the University, the student receives both a preliminary or mid-semester grade and a final grade. The mid-semester standing of a student is based on the daily recitation grades and a special test given during one or more regular recitation periods. Mid-semester grades are not entered on the Registrar's records. The final grade is based on the class standing for the entire semester and on a written final examination to which a special period of two or three hours is devoted,

[13]Students matriculating with 58 or more hours of credit may graduate with 148 hours, since physical education is not required of these students.

[14]In the College of Law all courses extend either through the entire year or through one semester. No credit will be given for less than an entire course except by special order of the Committee on Scholarship. Grades given at the end of the first semester in courses extending throughout the year are merely indicative of the quality of work done by the student to that point and do not give credit for the part of the course so far pursued. Such first-semester grades may be considered in determining the final grade.

except that the manner of determining the final grade of seniors and graduate students provisionally approved for graduation at the end of the semester or term is left with the head of the department. Any student not satisfied with his grade, however, has the right to take the examination with his class if he so desires.

EXAMINATION PERIODS

Mid-semester examinations are held during the week immediately preceding the day of the mid-semester reports as set forth in the University Calendar. Final examinations are held during the last week of each semester of the academic year, and during the last two days of each term of the Summer Session.

ABSENCE FROM EXAMINATION

Students are required to take all regular examinations. If a student attends a course throughout the semester and is absent from examination without permission, the instructor shall count the examination as zero and report the final grade as "F." If, in the opinion of the instructor, absence of the student was for satisfactory reason, the fact will be recorded on the student's class ticket, the grade "I" will be returned, and the student may, upon application to the instructor, take the examination at a later date.

INCOMPLETES AND FAILURES

If the final grade of a student in any course is "F," the student must take the course again if he desires to receive credit for it. The grade of "I" is given when an instructor believes that the course work is unavoidably incomplete or that a supplementary examination is justifiable. The grade of "I" can be removed by examination or completion of the work of the course. A grade of "I," not removed within the following semester or the next semester in which the student is in residence, becomes a failure unless special permission is granted by the appropriate Scholarship Committee to postpone removal.

Reports

Mid-semester grades are reported to students' advisers and to deans but are not recorded in the office of the Registrar.

Final grades are reported by instructors directly to the Registrar's office. Final grades must be in the hands of the Registrar within 48 hours after the closing hour of the examination. This rule also applies to the final grades of all students registered in other colleges or schools of the University who are enrolled in law courses.

The final standing of all seniors provisionally approved for graduation shall be reported by their instructors to the deans or directors of their colleges or schools, and the final standing of all graduate students provisionally approved for graduation shall be reported to the Dean of the Graduate School not later than last day of recitation of the second semester. For this purpose special report cards are supplied by the Registrar.

A report of each student's work is made at the close of the semester or Summer Session to the student himself and to his parents or guardian.

Scholastic Standing and Grade Points

GRADING SYSTEM

A—excellent (given only to those students of superior ability and attainment)
B—good (given to those students who are well above average, but not in the highest group)
C—fair (average students)
D—poor but passing[15]
F—failure
I—incomplete
W—all withdrawals prior to the end of the second week following the date set for mid-semester reports

[15]Veterans of World War II or Korea may register for courses in which they have a grade of "C" or higher, but no credit will be given for the new listing.

WP—withdrew passing subsequent to the end of the second week following the date set for mid-semester reports
WF—withdrew failing subsequent to the end of the second week following the date set for mid-semester reports
X—auditor, no grade and no credit

GRADE POINTS

The grade-point average is computed on all work for which the student has registered, except for the courses with grades of "W" and "WP," and is based on the following grade-point values:

A	B	C	D[16]	F	WF	I	X
4	3	2	1	0	0	0	0

Provided, however, that when a student receives a grade of "I" and later removes the incomplete grade, his average grade-point standing shall be calculated on the basis of the new grade.

Absences

Students shall attend all classes, including laboratory sessions, for which they are registered, unless prevented from doing so by illness, injury, authorized University activities, or other reasons approved by their deans.

A student who must be absent from class for an extended period of time shall inform his adviser or his dean.

Each college or school shall make suitable and effective provisions for handling absences.

Probation and Suspension

Any student whose mid-semester grades are below passing in courses amounting to more than half of the total number of semester hours for which he is registered shall be placed on probation for the remainder of the semester. The terms of probation are determined by the respective scholarship committees.

Any student whose grades at the end of any registration period are below passing in courses amounting to more than half the total number of semester hours for which he is registered shall be suspended from the University. A freshman subject to the operation of this rule at the end of his first registration period in residence shall be placed on probation for the succeeding registration period.

All actions of the Committee on Scholarship and of the dean or instructor of the college or school that affect the standing of a student shall be reported by the dean to the Registrar.

Duties of Instructors

Each instructor shall be responsible for keeping an attendance record of students in his classes and shall report an excessive number of absences to the student's dean and his adviser.

Duties of Advisers

All advisers, upon receipt of reports of excessive numbers of absences, shall have conferences with the students concerned and shall make such recommendations and adjustments as are desirable and feasible. If the adviser does not find a satisfactory solution after a conference with the student, he shall report the case to the dean of his college or school.

[16]Students, unless enrolled in the College of Commerce, School of Dentistry, College of Law, School of Medicine, or School of Pharmacy, are permitted to re-register at West Virginia University for any courses for which a grade of "D" has been received at West Virginia University. In such cases the second grade shall supercede the first, provided it is not lower than "D." For teacher certification the student is responsible for every registration in a course for which a grade of A, B, C, D, F, FIW, WF, or I is received. The grade-point average is computed on all work attempted.

Duties of the Committee on Scholarship

The Committee on Scholarship shall have authority to proceed according to its best judgment in regard to delinquent students referred to it for its consideration.

All orders of the committee shall become effective when approved by the dean of the college or school.

In the exercise of its authority the Committee shall not suspend a student during a semester except for willful neglect and in cases where the student's class grades are so low that further class attendance would be a waste of time. No suspension shall become effective until approved by the dean of the college.

FEES AND EXPENSES

All University fees are subject to change without notice.

Fees

All fees are due and payable at the Comptroller's desk in the Field House on the days of registration.[17] Fees paid after registration day must be paid at the Comptroller's Office in the Administration Building. Students registering pay the fees shown on page 76, plus special fees and deposits as required.

Remission of Fees

No tuition or fees, except those payable to State Special Funds or those charged to Special Services, shall be charged or collected by the University from any student registered in the Graduate School or the College of Law while such student is employed by the University on a regular appointment. Exemption does not include examination fees, graduation fees and flight fees. The appointment referred to must be effective from the beginning of the semester or summer term involved. Exemption on appointment must be claimed at the beginning of the registration period. In case of late appointment, exemption must be claimed within ten days after the appointment. Any such student who has held a regular University appointment for the second semester shall also be entitled to exemption from these fees for the Summer Session immediately following his term of appointment.

Students on regular University appointment who are registered in the Graduate School or the College of Law for twelve credit hours or more in any semester, or for five credit hours or more in any six-week summer term, and who qualify for remission of fees, are not subject to the fees payable to State Special funds. They are not entitled to the services provided thereby without payment of the appropriate additional fees.

The wife (or husband) of any person employed by the University on a regular appointment shall be charged the same fees as resident students. The dependent children of the person so employed shall also be charged the same fees as resident students.

Special Fees

Late-registration fee (non-refundable)[18]	$ 2.00
Graduation fee[19]	10.00
Professional Engineering degree (including $10 graduation fee)	25.00
Student's record fee[20]	1.00
Certificate in Home Economics	2.00
Associate in Arts Degree	2.00

[17]Students who have not paid their fees before the close of office hours of the second Saturday following the opening of a semester or a summer term shall be dropped from the rolls of the University, and the Registrar shall notify instructors that their class cards are to be withdrawn. The second Saturday following the opening of a semester is the end of the first refund period. The second Saturday following the opening of a summer term is the end of the refund period.

[18]This fee is not charged to students who complete registration during the regular registration days as set forth in the University Calendar. (See Part IV.)

[19]The graduation fee is payable by all students at the beginning of the semester or term in which they expect to receive their degrees.

[20]One transcript of a student's record is furnished by the Registrar without charge. This fee is charged for furnishing an additional transcript.

Special extra fee for flight training:

A.E. 171	100.00
A.E. 172	100.00
A.E. 173	100.00
A.E. 175	100.00
A.E. 176	100.00
A.E. 177	100.00
Fee for change in registration (after 8th day)	1.00
Fee for examination for entrance credit, per unit	1.00
Fee for examination for advanced standing	3.00
Fee for General Education Development tests (high-school level)[21]	15.00
Social work certificate	2.00
Fee for reinstatement of students dropped from the rolls	3.00
Fee for examination of candidates for graduate degrees[22]	1.00
Diploma replacement fee	5.00
Physical Education Student Activity Fee	3.50
Student Identification Card Replacement Fee	1.00
Correspondence Course in Guided Reading (per course)	1.00

Fee for Extension Work

A fee of $8 per semester hour** is charged for each extension course offered.

Fees for Undergraduate and Graduate Music Students

I. Full-time students:

A. Registered for Bachelors' or advanced degrees in Music or the Supervisory Training Program (in music):

1. Resident students ..... $ 56.00 per semester*
2. Nonresident students ..... 221.00 per semester*

B. Registered in other colleges or schools, including the Graduate School, except as noted above in "A":

1. Class courses in Music, the regular fee for the college or school in which registered with no additional fee.
2. Applied Music, the regular fee for the college or school in which registered plus Music fees as follows:
   a. Band and orchestra instruments, voice, piano, organ ..... $20†
   b. Applied Music Classes in band and orchestra instruments, piano, voice ..... $ 5
   c. Ensemble: chamber music, accompanying ..... $ 5

II. Part-time students:

A. Class courses in Music at the respective fee per credit hour (for resident students, $4 per semester hour; for nonresident students, $16 per semester hour).**

B. Applied Music along with at least one other class course, the fee for the Applied Music shall be the respective fee per credit hour plus Music fees as follows:**

	LESSONS PER WEEK	
	One	*Two*
1. Band and orchestra instruments, voice, piano, organ	$20	$35
2. Applied Music Classes in band and orchestra instruments, piano, voice	$ 5 per semester	
3. Ensemble: chamber music, accompanying	$ 5 per semester	

†Maximum, one lesson per week.
*Plus $50.00 new Registration Fee, imposed by law, effective June 1, 1959.
**Plus $4.00 per semester hour new Registration Fee, imposed by law, effective June 1, 1959.
[21]If the applicant applies for admission to and registers in the University within twelve months of the date for his qualifying for the test, a ten dollar credit shall be established for him.
[22]For graduate students not otherwise enrolled at time at final examination.

C. *Only* courses in Applied Music, the fee shall be the respective fee per credit hour plus Music fees as follows:***

	LESSONS PER WEEK *One*	*Two*
1. Band and orchestra instruments, voice, piano, organ	$27	$39
2. Applied Music Classes in band and orchestra instruments, piano, voice	$ 5 per semester	
3. Ensemble: chamber music, accompanying	$ 5 per semester	

***Plus $4.00 per semester hour new Registration Fee, imposed by law, effective June 1, 1959.

Piano and Pipe-Organ Practice:

(a) Piano for practice—one hour a day, $6 per semester; two hours, $10; three hours, $14, four hours, $18.

(b) Pipe-organ practice—one hour a day, $10 per semester.

(c) Band and orchestra instruments—rental fee $2.50 per semester.

Deposits

The deposits required are as follows: breakage deposit in chemistry, $7 or $12; breakage deposit for students enrolled in medical technology courses and in the School of Medicine, $10; for students enrolled in other colleges and schools of the University electing courses in medical technology or medicine, $5 for one laboratory course and $10 for more than one course; military or air science deposit, $10; breakage deposit in pharmacy, $10. Students enrolled in certain courses in Pharmacy, Medical Technology, Medicine, or Dentistry must pay a microscope rental fee of $20.00 per semester.

Summer Session Fees

	Resident	*Nonresident*
Health Service fee, per term	$1.00	$1.00
Mountainlair fee, per term	.75	.75
Student Union Building fee, per term	1.00	1.00
Tuition, per semester hour (except Dentistry and Medicine)	4.00* plus $4.00 per semester hour new Registration Fee,** imposed by law, effective June 1, 1959	8.00 plus $4.00 per semester hour new Registration Fee,** imposed by law, effective June 1, 1959
Tuition, per semester hour Dentistry and Medicine	8.00 plus $4.00 per semester hour new Registration Fee,** imposed by law, effective June 1, 1959	16.00 plus $4.00 per semester hour new Registration Fee,** imposed by law, effective June 1, 1959

*The maximum tuition fee for the Summer Session shall not exceed $40.00.

**The total Registration Fee collected from any student during the Summer Session shall not exceed $40.00 ($20.00 per term).

SEMESTER FEES IN THE COLLEGES AND SCHOOLS

(See footnotes 23, 24, 25, and 26)

	Full Time		Part Time (Per Semester Hour)	
	Resident	Nonresident	Resident	Nonresident
GROUP I Agr., For., Home Econ. Arts and Sciences Commerce Education Engineering Journalism Mines Music Physical Educ. and Athletics	$56.00* plus new Registration Fee of $50.00, imposed by law, effective June 1, 1959	$221.00* plus new Registration Fee of $50.00, imposed by law, effective June 1, 1959	$4.00 plus $4.00 per semester hour new Registration Fee, imposed by law, effective June 1, 1959	$16.00 plus $4.00 per semester hour new Registration Fee, imposed by law, effective June 1, 1959
GROUP II Law Medical Technology (Jr. and Sr. Years) Pharmacy	$71.00* plus new Registration Fee of $50.00, imposed by law, effective June 1, 1959	$246.00* plus new Registration Fee of $50.00, imposed by law, effective June 1, 1959	$5.00 plus $4.00 per semester hour new Registration Fee, imposed by law, effective June 1, 1959	$17.00 plus $4.00 per semester hour new Registration Fee, imposed by law, effective June 1, 1959
GROUP III Dentistry Medicine	$133.00* plus new Registration Fee of $50.00, imposed by law, effective June 1, 1959	$351.00* plus new Registration Fee of $50.00, imposed by law, effective June 1, 1959	$8.00 plus $4.00 per semester hour new Registration Fee, imposed by law, effective June 1, 1959	$26.00 plus $4.00 per semester hour new Registration Fee, imposed by law, effective June 1, 1959

*Includes Student Activity Fee ($8), Health Service Fee ($3), Mountainlair Fee ($2), and Student Union Building Fee ($3).

Semester Fees (*See opposite page*)

A part-time student (graduate or undergraduate) enrolled for courses in two or more colleges and schools shall pay fees at the rate per semester hour effective for the number of hours in each college and school.

If the student (graduate or undergraduate) is enrolled for 12 or more hours in courses offered by two or more colleges and schools, but less than 12 in any one, he shall be considered to be a full-time student and shall pay the fees for special services (Student Activity, Health Service, Mountainlair, and Student Union Building) in addition to the part-time rates per hour for courses in each college and school.

If the student (graduate or undergraduate) is enrolled for 12 or more hours in courses offered by colleges and schools in Group I, he shall pay the full-time rate effective for Group I. (Does not include Flight Training. Does not include Applied Music for students who are not candidates for degrees in Music.) This student shall pay the part-time rate for any courses in colleges and schools in Group II and Group III.

If the student (graduate or undergraduate) is enrolled for 12 or more hours in courses offered by colleges and schools in Group II, he shall pay the full-time rate effective for Group II and may elect courses in colleges and schools in Group I at no additional cost or may elect courses in colleges and schools in Group III at the part-time rate effective for Group III. (Does not include Applied Music or Flight Training.)

If the student (graduate or undergraduate) is enrolled for 12 or more hours in courses offered by colleges and schools in Group III, he shall pay the full-time rate effective for Group III and may elect courses in Group I or Group II at no additional cost. (Does not include Applied Music or Flight Training.)

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[23]A full-time student is one who is registered for 12 or more semester hours of work each semester of the regular academic year, or 5 or more semester hours of work during the Summer Session. A full-time student during the regular academic year receives an Identification Card which entitles him to admission to all athletic events. A full-time student during the regular academic year or during the Summer Session is entitled to free medical consultation and advice from the University physician. A moderate charge is made for room calls, X-rays, special laboratory tests, drugs furnished by the University Pharmacy, minor operations, treatment of fractures and dislocations, and intravenous treatment.

[24]A part-time student is one who is registered for fewer than 12 semester hours per semester during the regular academic year, or for fewer than 5 semester hours during the Summer Session.

[25]No person shall be considered eligible to register in the University as a resident student who has not been domiciled in the State of West Virginia for at least twelve consecutive months next preceding college registration. No nonresident student may establish domicile in this State, entitling him to reduction or exemptions of tuition, merely by his attendance as a full-time student at any institution of learning in the State. A minor student whose parents acquire a West Virginia domicile after the student's original registration will be deemed to have the domicile of his parents and become entitled to pay resident fees. Moreover any student who has originally paid nonresident fees may become entitled to pay resident fees, if after an interim of nonattendance or otherwise he has established a valid legal domicile in this State at least twelve months prior to his registration in the University. In any event, the appointment of a guardian for a minor student temporarily resident in West Virginia, other than the designation of a natural guardian, shall not in and of itself operate to establish a West Virginia domicile for such student.

[26]The minimum rate for non-credit courses is that charged for one semester hour of credit plus the $4.00 per semester hour new Registration Fee, imposed by law, effective June 1, 1959.

Student Identification Card

An identification card is issued to each full-time student. This card entitles the owner to admission to certain University activities, athletic events, various activities of student government, Health Service, and Student Union (Mountainlair). Confiscation will result from misuse. The University reserves the right to refuse reissuance of an identification card. When a student withdraws regulaly from the University a fee of six dollars will be assessed if the identification card is not surrendered.

Refunding of Fees

A student who withdraws regularly[27] from the University may arrange for a refund of fees by submitting to the University Comptroller evidence of approval of the refund by the Registrar. Semester fees will be returned in accordance with the following schedule:

	Amount of Refund
During the first and second weeks	50% of Student Activity Fee, Health Service Fee, Mountainlair Fee, and Student Union Building Fee, all chargeable to Special Services; and all other semester fees less $2.50.
During the third and fourth weeks	50% of Student Activity Fee, Health Service Fee, Mountainlair Fee, and Student Union Building Fee, all chargeable to Special Services; and 80% of all other semester fees.
During the fifth and sixth weeks	60% of semester fees not chargeable to Special Services.[28]
During the seventh and eighth weeks	40% of semester fees not chargeable to Special Services.[28]
Beginning the ninth week	No refunds allowed.

Campus Parking Regulations

Students are required to observe all rules and regulations of the University with respect to the parking of motor vehicles on the campus.

COST OF AN ACADEMIC YEAR'S WORK

A students' textbooks will cost approximately $60 a year, and his registration fees $212 to $366 if he is a resident; or $542 to $802 if a nonresident. Students in engineering will use drawing instruments costing from $14 to $29. The laboratory breakage deposit required ranges from $7 to $12, a part of which is usually returned at the end of the year. In military and air science a $10 deposit is required to cover military equipment in the custody of the student, practically all of which is returned to the student when he accounts for his equipment. Board and room may be obtained at from approximately $509 to $599 a year. A student's laundry will cost from $35 to $45 a year. Traveling expenses, clothing, and other miscellaneous items will depend largely upon the tastes and habits of the individual student. In general, however, it may be said that the legitimate cost of a 9-month term of residence at the University ranges from $900 to $1,500 a year.

[27]To withdraw regularly a student must apply to the Registrar for permission. The withdrawal permit must be approved by the student's adviser and the dean of the school and accepted by the Registrar.

[28]Student Activity Fee, Health Service Fee, Mountainlair Fee, and Student Union Building Fee, all chargeable to Special Services, nonrefundable during this period.

Part II

CURRICULA AND COURSES

ABBREVIATIONS

The following abbreviations are used in the descriptions of courses.

I—a course given in the first semester.
II—a course given in the second semester.
I, II—a course given in each semester.
I and II—a course given throughout the year.
S—a course given in the Summer Session.
SI—a course given in the first term of the Summer Session.
SII—a course given in the second term of the Summer Session.
hr.—number of credit hours per course.
rec.—recitation period.
lab.—laboratory period.
conc:—concurrent registration required.
consent—consent of instructor required.
PR:—prerequisite.

PLAN FOR NUMBERING COURSES

For convenience each course of study is designated by the name of the department in which it is given and by the number of that course. The plan for numbering is as follows:

Courses 1 to 99—courses intended primarily for freshmen and sophomores.
Courses 100 to 199—courses intended primarily for juniors and seniors.
Courses 200 to 299—advanced courses for juniors, seniors, and graduates.
Courses 300 to 399—courses open to graduate students only.

SCHEDULES

Before the opening of each semester, a schedule is printed announcing the courses that will be offered in the College Agriculture, Forestry, and Home Economics; the College of Arts and Sciences; the College of Commerce; the College of Education; The School of Journalism; the Division of Military Science and Tactics and Air Science; the School of Music; and the School of Physical Education and Athletics. Schedules are prepared for the School of Dentistry, the College of Engineering and the School of Mines, the College of Law, the School of Pharmacy, and the School of Medicine, but are not printed.

The College of Agriculture Forestry, and Home Economics

THE COLLEGE OF AGRICULTURE, FORESTRY, AND HOME ECONOMICS

Agricultural, forestry, and home economics work at West Virginia University is organized under the College of Agriculture, Forestry, and Home Economics. For the purpose of administration the College is divided into three branches:

I. The Agricultural Experiment Station, organized for research and experimental work.

II. Resident instruction in agriculture, in forestry, and home economics.

III. Extension work in agriculture, forestry, home economics, and boys' and girls' club work, given by the Agricultural Extension Service to citizens of the state who are not in residence at the college.

The work of these divisions is closely interrelated. Although some members of the staff devote full time to college instruction, research, or extension work, many others divide their time among two or three of the divisions.

History

In 1895 the College of Agriculture was established as a distinct college in the University. The Agricultural Experiment Station, founded in 1888, became part of the the College at the time the latter was instituted. The Agricultural Extension Service was added in 1913, and in 1914 the Department of Home Economics was transferred from the College of Arts and Sciences. Organization of the College was completed in 1937 when a full four-year course in forestry was added. The name of the unit then was changed to "The College of Agriculture, Forestry, and Home Economics."

The West Virginia University Agricultural Experiment Station

The Experiment Station was established by the Board of Regents in 1888 by authority of an Act of Congress known as the Hatch Act. Further support was given by Acts of Congress known as the Adams Act, the Purnell Act, the Bankhead-Jones Act, the Research and Marketing Act of 1946, and the Hatch Act as amended in 1955.

The objects and purposes of the Experiment Station, as stated in the Hatch Act, as amended, are: "It shall be the object and duty of the State agricultural experiment stations through the expenditures of the appropriations hereinafter authorized to conduct original and other researches, investigations, and experiments bearing directly on and contributing to the establishment and maintenance of a permanent and effective agricultural industry of the United States, including researches basic to the problems of agriculture in its broadest aspects, and such investigations as have for their purpose the development and improvement of the rural home and rural life and the maximum contribution by agriculture to the welfare of the consumer, as may be deemed advisable, having due regard to the varying conditions and needs of the respective States."

At present, investigations are being conducted in the fields of agricultural biochemistry, agricultural economics and rural sociology, agricultural engineering, agronomy and genetics, animal husbandry, dairying, forestry, home economics, horticulture, plant pathology, bacteriology, and entomology. These investigations are classified into 156 research projects.

Branch Agricultural Experiment Stations

Branch experiment stations are maintained at Wardensville, Point Pleasant, Kearneysville, and Reedsville. The Reymann Memorial Experimental Farms at Wardensville, a gift received in 1917 from the state of Lawrence A. Reymann, occupy 987.5 acres of farm land on the Cacapon River in Hardy County. The farm is being operated on an experimental basis involving pasture improvement, erosion control, soil rebuilding, water conservation, irrigation, crops, beef cattle, sheep, and poultry.

The Ohio Valley branch experiment station of 150 acres at Point Pleasant on the Ohio River was acquired in 1948 from the War Assets Administration. It is operated as a unit for the experimental production of tobacco, truck and field crops of special interest to the farmers of the Ohio and Kanawha Valleys. From this Station, supervision extends to the area at Lakin formerly operated by the Experiment Station, but operated by West Virginia State College.

The University Experiment Farm, a tract of 158 acres near Kearneysville, in the eastern fruit section, was established in 1930 as a branch experiment station for the study of problems relating to fruit production, including insect and disease control, as well as problems of general farming typical of the section. The insect investigations are carried on in cooperation with the Federal Bureau of Economic Entomology.

The Reedsville Experiment Farm in Preston County was acquired through transfer of the dairy farm of the Arthurdale Association by the Federal Housing Authority for the purpose of contributing to the welfare of the community and the people of West Virginia through demonstration and research. Work on this 457-acre farm consists of programs with potatoes, ornamentals, small fruits, corn and legumes in rotations, livestock, hillculture, and agricultural engineering.

Bulletins and quarterly reports setting forth the results of experiments and investigations conducted at the Station are published for gratuitous distribution and will be mailed to any citizen of the State who applies for them.

Cooperative Extension Work

By act of the Legislature in 1913, amended in 1915, the Agricultural Extension Service was created and established in the College of Agriculture for the purpose of promoting improvement and advancement of agriculture, home economics, and rural life among the people of the State.

County Extension agents carry on a continuous program of demonstration coupled with all available means for disseminating information on problems relating to production techniques, marketing, and soil conservation. They demonstrate new and improved varieties of crops, methods of insect and disease control, methods of cultivation, proper fertilization, and use of labor-saving devices and techniques in harvesting.

Farmers are assisted with the solution of problems relating to livestock breeding, diseases and their control, and feeding and marketing. Farmers also are helped with problems relating to management of their farms, securing of credit, combination of farm enterprises, and keeping of farm accounts.

Receiving attention in the home phase of farm problems are those related to foods and nutrition, home management, housing, clothing, and family life. Attention also is given to the family and its constructive influence in community life and civic affairs; discussion guides and factual information are provided to help homemakers become better informed citizens, and to give them a better understanding of the effect of national and international affairs on their farms and in their homes.

West Virginia was one of the states that pioneered in the initial phases of the Rural Development program, in which local, state, and federal leaders try to bring about the maximum cooperation of all agencies, both government and nongovernment, that can make a contribution in the solution of the economic problems facing many rural areas. Early in the program, Lewis County was declared as a pilot-area, and an Extension worker was assigned to the area to work specifically with Rural Development. The program has now expanded to include two areas in West Virginia, the first consisting of Lewis, Braxton, Gilmer, and Upshur counties, and the other of Raleigh, Summers, and Fayette counties. Agriculture and labor surveys have been completed in the two areas, providing the information needed by the county industrial and agricultural committees in order to do constructive planning. One area of agricultural activity that has resulted from this program in an increase

in vegetable production. Production has expanded rapidly, and the products are marketed through farmers' markets. Efforts are being made to increase product quality as well as production efficiency.

The Agricultural Extension Service serves large numbers of consumers with its "Market Information for Consumers" program in the Wheeling-Steubenville area. The program, conducted cooperatively with workers from Ohio State University and the United States Department of Agriculture, serves some 100,000 homes in that area. Newspapers, radio, and television are used to provide marketing information and food information for the consumer, and information concerning consumer desires and wants are also noted and relayed back to the producer, processor, and market operator.

All Extension workers have a deep interest in rural youth of the State. Through 4-H club work, young people are introduced to many improved practices in agriculture and home making. This program emphasizes the four-fold development of head, heart, health, and hand.

The primary function of the Agricultural Extension Service is education. The chief purpose of Extension is to teach people to help themselves. The organization is financed jointly by the federal, state, and county governments.

In 1921 the Legislature established at Jackson's Mill, Lewis County, a State 4-H Camp which has grown from 5 to 523 acres. Fifteen cottages erected by various counties together with the assembly hall, swimming pool, dining room, health center, and other buildings and equipment, furnish facilities for a series of camps, conferences, and meetings running throughout the year. The All Faiths Prayer Chapel, a beautiful building of stone and glass, was dedicated on April 12, 1959. The Chapel was developed for personal prayer and meditation for individuals, as well as for small groups. The State 4-H Camp is the pioneer development of its kind in the world.

The Agricultural Extension Service cooperates with Oglebay Institute in carrying out the educational program at Oglebay Park near Wheeling. By arrangement with the Wheeling Park Board, the facilities of this park are used by the Institute for camps, conferences, and fairs. The chief purpose of this type of program is to train and develop leadership in music, recreation and other forms of leisure-time activities, as well as in handicrafts and art.

Short Courses and Special Schools

In addition to the instruction of collegiate grade offered, the College of Agriculture, Forestry, and Home Economics maintains a series of annual short courses with special schools for the benefit of adult residents in the State who wish to obtain, in brief periods, education in certain fields. The Department of Dairy Husbandry sponsors annually a four-day dairymen's short course, presenting the latest developments in milk production and marketing, as well as information relative to all other phases of dairy farm operation. The Department also sponsors from time to time milk, ice cream, and cottage cheese courses for dairy plant operators and courses in advanced judging of dairy cattle for county agents and other qualified agricultural workers.

The Horticulture Extension School is held each year in the Eastern Panhandle. One-day schools are held at Romney and Wheeling. The annual sessions are designed to help in solving the many production, disease control, and marketing problems of the Panhandle fruit grower.

Buildings and Equipment

The administrative offices and many of the laboratories and classrooms of the College are in Oglebay Hall. The building contains on the basement floor the creamery and dairy laboratories, four-chambered cold storage plant and ice machine, the mailing room, and laboratories for animal husbandry. The first floor is devoted to the Office of Administration of the College, the Experiment Station, and the Extension Service; the Department of Agronomy; the Division of Home Economics; and to agronomy and home economics laboratories. The second floor houses the departments of Agricultural Education and Animal Husbandry as well as the Extension Service editorial offices and provides two recitation rooms, three home economics laboratories and a staff conference room. On the upper floor are situated the Department of Horticulture, the Animal Pathology section of the Department of Animal Husbandry, the agricultural photographer's studios, and the Statistics Laboratory.

The Agricultural Editor's office is located in the basement of Woodburn Hall.

The Extension Service also has several offices in the Spruce Street Annex.

In Oglebay Annex are situated the offices of the Department of Dairy Husbandry, and some of the laboratories in the Department of Agricultural Engineering.

The Department of Plant Pathology, Bacteriology, and Entomology with offices, classrooms, and laboratories, occupies a section of Brooks Hall.

The old Experiment Station building houses on the first floor the office and laboratories of the Agricultural Biochemistry Department. The second floor is occupied by the soils laboratories and agronomy offices.

Beaumont House Annex houses the offices and laboratories of the Department of Agricultural Economics and Rural Sociology. Additional offices for research and teaching personnel are located at 661 Price Street.

The Forestry building across Stadium Bridge houses in its two upper floors the Division of Forestry, and in its basement and first floor, the laboratories and offices of the Department of Agricultural Engineering.

The Home Management Houses are situated at 128 Willey Street and 298 Prospect Street. The Nursery School is located at 549 Price Street. Facilities for research and teaching in fabrics are located at 296 Prospect Street.

The College of Agriculture now has 990 acres of land lying at a short distance from the University buildings. This land is definitely organized into a series of five farms operated respectively as Animal Husbandry, Dairy Husbandry, Poultry Husbandry, Agronomy, and Horticulture units. Each of the farms is equipped with modern farm buildings and with special buildings for experimental, laboratory, and classroom work. The Animal Husbandry Farm contains a 40-acre woodlot which is used for instruction and experimentation in forestry.

At Alvon, in Greenbrier County, the Division of Forestry maintains Camp Wood, devoted to field instruction in land surveying and timber estimating for students in the division who have passed two years of the professional forestry course. The camp, situated in the Monongahela National Forest, is equipped with permanent buildings for instruction and living accommodations.

The Division of Forestry also has 498 acres of forest land in Randolph County which is being used for research and educational training. In addition to this work, the tract is used by extension foresters to demonstrate sustained yield and forest operation for the production of hardwood timber.

During 1951, an agreement was completed between the University and the Island Creek Coal Company making the 3,000-acre Island Creek Experimental Forest available for research in applied forestry. The experimental work conducted here is open to inspection by forestry students.

Cooper's Rock State Forest, an area of 13,000 acres fronting on Cheat Lake, is less than ten miles from the institution. By agreement between the University and the Conservation Commission of West Virginia an 8,000-acre part of this forest has been set aside as the West Virginia University Forest, Division of the Cooper's Rock State Forest. This area is managed by the Division of Forestry for research and educational purposes.

With its farm land, buildings, and equipment the College of Agriculture, Forestry, and Home Economics is enabled to offer thorough and complete training in most branches of agriculture and forestry which are applicable to West Virginia conditions, and to provide adequate training in several fields in home economics.

As part of the work in several of the courses offered in the College, visits are made to large farms, specialized farms or farming regions, and city markets. Students are expected to pay their own expenses, which are kept at a moderate figure.

Student Activities

Every student entering judging courses offered in the college has the opportunity of competing for a place on livestock, meat, dairy cattle, dairy products, poultry, and fruit-judging teams. Qualified teams compete at regional, national, and international contests.

Numerous organizations on the Campus are open to University students. Of special interest to students of agriculture, forestry, or home economics are the Mountaineer Poultry Club, Mountaineer Collegiate Chapter of Future Farmers of America, Forestry Club, Dairy Science Club, Home Economics Club, University 4-H Club, Alpha Zeta (agricultural honorary), Phi Upsilon Omicron (home economics honorary), Alpha Tau Alpha (agricultural educational organization), and Block and Bridle Club

COMMITTEES

FACULTY COMMITTEES:

Career Opportunities Committee: Messrs. Barnett, Brooks, Christensen, Dorsey, Fortney, Kelly, Kidder, Longhouse, Patrick, Porterfield, Shelton and Ulrich; Misses Corliss, Ramsey, and Thorn.

Courses and Hours: Messers. Percival, Pohlman, Porterfield, and Kottman; Miss Brown.

Faculty Executive: Messrs. Dunbar, Kottman, Luchok, Toben, and Tryon; Mrs. Berthy.

Library: Messrs. Christensen and Fortney; Miss Ramsey.

Long Range Plans Committee: Messrs. Bowers, Goodspeed, Patrick, and Pohlman; Miss Brown.

Scholarship: Messrs. Carvell and Toben; Mrs. Berthy.

Social Committee: Messrs. Creel, Evans, Marsh, Smith, Weese, and Wilson; Mrs. Jones.

Student Aid and Grants: Messrs. Brooks, Coffindaffer, Kelly and Kidder; Miss Franck.

EXPERIMENT STATION STAFF COMMITTEES

Staion Projects: Messrs. Baughman, Dunbar, Goodspeed and Shelton.

Station Publications: Messrs. Evans, Tryon, and Welch.

Revision of the Unity Rule of 1948

"Students who are deficient by 15 or more grade points shall be placed on probation. Students on probation shall report to the Scholarship Committee before registering for the succeeding semester and shall obtain from the Scholarship Committee a statement of courses to be repeated and the total load that they may carry. In each successive semester thereafter, they shall be required to repeat one or more courses in which they have received a grade of "D" until they have made up the deficiency in grade points. Students whose deficiency in grade points exceeds 30 shall be suspended."

Division of Agriculture

The training offered in agriculture is adapted to fit the student for farm life or professional and business fields. Graduates may engage in farming as managers or as farm owners, in the teaching of agriculture in high schools or colleges, in extension work as county agents or specialists, in research work in experiment stations or other organizations, or in many of the federal activities in aid of agriculture. They may engage in business related to farming, such as dairy manufacturing, meat processing, seeds and nursery stock, feeds and fertilizers, or marketing.

For the use of students, the following laboratories are maintained in the college: agricultural chemistry, agronomy, soils, genetics, animal husbandry, animal pathology, dairy husbandry, entomology, agricultural economics, rural sociology, agricultural engineering, horticulture, nutrition, plant pathology, and poultry husbandry.

The Dean of the College of Agriculture will act as adviser for all agricultural students and will assign students to other advisers whom he may designate.

REQUIREMENTS FOR DEGREES

The Division of Agriculture offers four-year courses leading to the following degrees: (1) Bachelor of Science in Agriculture, (2) Bachelor of Science, and (3) Bachelor of Science in Agricultural Engineering. The degree of Bachelor of Science in Agriculture, together with the degree of Bachelor of Arts in the College of Arts and Sciences, may be acquired in five years. Graduate work is is discussed on page 95.

For graduation, an average of 2 grade points per credit hour is required for all courses taken, whether passed or failed.

The "semester hour" is the standard for computing the amount of work required for graduation. The "hour" represents the amount of work done in one semester (eighteen weeks) in one recitation with two preparation hours a week or three hours practice or laboratory work requiring no outside preparation.

No student may register for less than 14 hours or more than 20 hours of work in any one semester without special permission.

Not more than 2 hours of credit for physical activity courses will be allowed toward the above degrees in the case of male students, four in the case of female students.

Bachelor of Science in Agriculture

The curriculum leading to the degree of Bachelor of Science in Agriculture is designed to provide a broad and well-rounded training in the general field of agriculture so that the graduate may be prepared for occupations requiring such general knowledge, and may have the necessary foundation for such specialization as he may elect to pursue.

The requirements for the degree of Bachelor of Science in Agriculture are:

1. Constants, or courses required of all qualifying for this degree.
2. Courses to be taken in the field of the student's major interest.
3. Free electives sufficient to bring the total number of credits to 144 semester hours.
4. A grade-point average of not less than two points per semester hour.

All candidates for the degree must take the following courses:
Biology: Biology 1 (4 hr.) and Biology 2 (4 hr.).
Chemistry: Chem. 1 and 2 (8 hr.).
English: English 1 and 2 and English 18 (9 hr.).
Economics: Agr. Econ. 102 (3 hr.).
Mathematics: Math. 2 (3 hr.).
History: Hist. 2 (3 hr.).
Military: Military or Air Science 1, 2, 3, and 4 (men) (8 hr.).
Physical Education: Phys. Ed. 1 and 2 (men) (2 hr.); women (4 hr.).
Physics: Physics 1 and 2 (8 hr.) (Agricultural Education students not included).
Political Science: Pol. Sci. 101 (3 hr.) (Agricultural Education students not included).

In addition to the above constants, each student is required to take the courses under the curriculum. At least 20 hours given in the department in which the student is majoring are required.

After requirements have been met, electives may be chosen without restriction as to college or department, with the approval of the adviser. Required and elective hours taken in the College of Agriculture, however, must total at least 60. Provision is made for upper-division students who may wish to elect certain lower-division subjects such as languages.

CURRICULA

Students who wish to specialize may select majors in Agricultural Economics, Agricultural Mechanics, Agronomy and Genetics, Animal Husbandry, Dairy Husbandry, Dairy Manufacturing, Horticulture, Landscaping, Poultry Husbandry, and Agricultural Education. Students desiring a more general knowledge of Agriculture, particularly those who expect to farm for themselves or go into Extension work, may pursue a curriculum in General Agriculture.

The following curricula indicate course requirements in each of the majors.

CURRICULUM IN AGRICULTURAL ECONOMICS

Degree: Bachelor of Science in Agriculture

This curriculum is designed principally to prepare students for advanced study in the field. Students who are interested in agricultural economics but plan to seek employment without graduate study are advised to major in General Agriculture and elect agricultural economics courses.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
A.H. 11	3	*Biol. 2	4
*Biol. 1	4	*Chem. 2	4
*Chem. 1	4	*English 2	3
*English 1	3	*Mil. or Air Sci. 2	2
*Mil. or Air Sci. 1	2	Phys. Ed.	1
Phys. Ed. 1	1	P. H. 1	4
	17		18

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
D. H. 11	3	Agr. Econ. 131	3
*Agr. Econ. 102	3	Agron. 1	4
*Math. 2	3	*English 18	3
*Mil. or Air Sci. 3	2	*Mil. or Air Sci. 4	2
*Physics 1	4	*Physics 2	4
Electives	4	Electives	3
	19		19

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Agr. Econ. 104	3	*Hist. 2	3
A. H. 101	3	Rural Soc. 105	3
*Pol. Sci. 101	3	Hort. 1 or 2	3
Electives	9	Electives	9
	18		18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Philos. 106	3	Agr. Econ. 200	3
Electives	15	Agr. Econ. 271	2
		Electives	12
	18		17

*Constants required in all curricula.

Select electives in accordance with the following outline.

GROUP A.

1. Elect not less than 2 hr. from:
   Agr. Econ. 206, 230.
2. Elect not less than 3 nor more than 6 hr. from:
   Agr. Mech. 152, 153, 170.
3. Elect not less than 3 nor more than 6 hr. from:
   Agron. 205, 210, 254; Genetics 111, 221, 224.
4. Elect not less than 6 nor more than 12 hr. from:
   An. Husb. 141, 142, 143, 167, 225; An. Path. 102; Dairy Husb. 12, 107, 123, 222; Poult. Husb. 103.
5. Elect not more than 3 hr. from:
   Hort. 1 or 2, 206, 208.
6. Elect not less than 4 nor more than 6 hr. from:
   Bact. 141; Entom. 202, 203; Pl. Path. 201, 206, 208.
7. Elect not less than 3 hr. from:
   Forestry 183; Agr. Ed. 134.

GROUP B.

1. Elect 9 hr. from Econ. 111, 119, 125, 235, 241.

GROUP C.

1. Elect 3 hr. from Psych. 1, Pol. Sci., 232; Soc. 102, 229; Hist. 282.

FREE ELECTIVES: 11 hr.

CURRICULUM IN AGRICULTURAL EDUCATION

Degree: Bachelor of Science in Agriculture

The State Board of Education has set up definite requirements applicable to all college graduates desiring to teach in West Virginia high schools. These requirements specify the kind and number of various science and agricultural courses as well as courses in professional education subjects, also certain general education and cultural subjects, all of which are necessary to qualify graduates for certification. This curriculum is designed to prepare students for a teaching career in the field of vocational agriculture, with provisions for teaching biological science as a second field. To meet the state requirements for teaching vocational agriculture, a B.S. Degree in Agriculture is required. This curriculum satisfies the requirements for this degree.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
*English 1	3	*English 2	3
A. H. 11	3	P. H. 1	4
*Biol. 1	4	*Biol. 2	4
*Chem. 1	4	*Chem. 2	4
*Mil. or Air Sci. 1	2	*Mil. or Air Sci. 2	2
*Phys. Ed. 1	1	*Phys. Ed. 2	1
	17		18

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Dairy 11	3	Agron. 1	4
Hist. 1	3	*Hist. 2	3
*English 18	3	English 5 or 6	3
Soc. Sci. 1	4	Soc. Sci. 2	4
*Mil. or Air Sci. 3	2	Hort. 1, 2, or 229	3
*Math. 2	3	*Mil. or Air Sci. 4	2
	18		19

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Agron. 2	4	Forestry 183	3
Agr. Mech. 152	3	Educ. 106	3
A. H. 101	3	Agr. Mech. 153	3
*Agr. Econ. 102	3	Bact. 141	4
Educ. 105	3	Art 30 or 130	2
Music 10	2	Electives	5
	18		20

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Agr. Econ. 104	3	Educ. 114	3
Educ. 160	3	Educ. 120	2
Educ. 276	2	Educ. 124	4
Health Ed. 101	2	Agr. Educ. 118	2
An. Path. or Pl. Path.	3-4	Electives	5
Agr. Mech (Elective)	3		
Electives	2		
	18-19		16

*Constants required in all curricula.

NOTE: Nine hours of electives must be in Agriculture to meet the requirements for the B.S. Agriculture degree. The remaining three hours are free electives.

CURRICULUM IN AGRICULTURAL MECHANICS

Degree: Bachelor of Science in Agriculture

This curriculum is intended for agricultural students who are interested in the production and primary processing of crops and livestock, in county agent and other extension work, in soil-conservation work, and in sales and and other work which deals directly with farm people. To an increasing extent, the operations on the farm are being mechanized through use of power and machinery. Consequently, the student must have an acquaintance with machinery, power, electrical equipment, soil conservation, farm buildings, and other Agricultural Mechanics subjects that relate to production and processing. Such training is included in this curriculum.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
A. H. 11	3	*Biol. 2	4
*Biol. 1	4	*Chem. 2	4
*Chem. 1	4	*English 2	3
*English 1	3	*Mil. or Air Sci. 2	2
*Mil. or Air Sci. 1	2	*Phys. Ed. 2	1
*Phys. Ed. 1	1	P. H. 1	4
	17		18

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
*Agr. Econ. 102	3	Bact. 141	4
*Math. 2	3	D. H. 12	3
M.E. 20	3	*English 18	3
*Mil. or Air Sci. 3	2	*Mil. or Air Sci. 4	2
*Physics 1	4	*Physics 2	4
I. E. 11	2	Electives	3
	17		19

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Agr. Econ. 104	3	Agron. 1	4
Agron. 2	4	Hort. 1, 2, or 229	3
*Hist. 2	3	Hort. 106	2
Pl. Path. 201	4	I. E. 7	1
Agr. Mech. 152	3	*Pol. Sci. 101	3
Electives	2	Electives	5
	19		18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Agr. Mech. 151	3	Agr. Mech. 113	3
Agr. Mech. 170	3	Agr. Mech. 153	3
Agr. Mech. 175	3	Agr. Mech. 159	3
Electives	8	Agr. Mech. 200	2
		Electives	8
	17		19

*Constants required in all curricula.

CURRICULUM IN AGRONOMY AND GENETICS

Degree: Bachelor of Science in Agriculture

This curriculum is suggested for students who plan to enter into work in some phase of Agronomy or Soil Conservation upon their graduation. Students intending to take graduate work to qualify for research or teaching positions in Agronomy or Genetics should elect the Agricultural Science Curriculum and elect at least 20 hours in the field of Agronomy and Genetics.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
An. Husb. 11	3	*Biol. 2	4	*Agr. Econ. 102	3	Agron. 1	4
*Biol. 1	4	*Chem. 2	4	Chem. 131	4	Bact. 141	4
*Chem. 1	4	*English 2	3	*English 18	3	*Mil. or Air Sci. 4	2
*English 1	3	Hort. 1	3	*Math. 2	3	Speech 11	3
*Mil. or Air Sci. 1	2	*Mil. or Air Sci. 2	2	*Mil. or Air Sci. 3	2	*Physics 2	4
*Phys. Ed.	1	*Phys. Ed.	1	*Physics 1	4		
	17		17		19		17

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Agr. Econ. 104	3	Botany 161	4	Agr. Econ. 206	3	Agr. Mech. 153	3
Agron. 2	4	Entom. 202	4	Agron. 210	3	Agron. 254	4
An. Husb. 101	3	*Hist. 2	3	Genetics 221	3	Electives	10
Hort. 2 or 206	3	Electives	8	*Pol. Sci. 101	3		
Pl. Path. 103	4			Electives	7		
Electives	2						
	19		19		19		17

Suggested Electives: Agr. Econ. 271; Agr. Mech. 151, 175; Agron. 205, 211, 216, 230, 231, 251, 252; An. Husb. 141, 162; Dairy Husb. 11; Entom. 203; Forestry 183; Genetics 220, 222; Geol. 1, 2; Pl. Path. 202.

CURRICULUM IN ANIMAL HUSBANDRY

Degree: Bachelor of Science in Agriculture

The Animal Husbandry curriculum is outlined to give students sufficient course work in the fundamental sciences, and adequate course work in other fields of agriculture to balance their knowledge of agriculture as a whole. The Animal Husbandry courses required and taken as electives will give students a good foundation to continue graduate work in their chosen major, or to be employed in special lines of work open to students majoring in this field.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
*Biol. 1	4	*Biol. 2	4	D. H. 11	3	Agron. 1	4
*Chem. 1	4	*Chem. 2	4	Chem. 131	4	Bact. 141	4
Math. 2	3	*English 1	3	*Physics 1	4	*English 18	3
A. H. 11	3	*Mil. or Air Sci. 2	2	*Mil. or Air Sci. 3	2	*Mil. or Air Sci. 4	2
*Mil. or Air Sci. 1	2	*Phys. Ed. 2	1	*Agr. Econ. 102	3	*Physics 2	4
*Phys. Ed. 1	1	Agr. Electives	3	*English 2	3		
	17		17		19		17

*Constants required in all curricula.

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr*
A. H. 101	3	A. H. 225	3	An. Path. 102	3	A. H. 199	1
A. H. 167	3	*Pol. Sci. 101	3	Genetics 221	3	Electives	17
Agron. 2	4	*Hist. 2	3	Electives	12		
Electives	9	Electives	10				
	19		19		18		18

*Constants required in all curricula.

Suggested Electives: Agr. Biochem. 290, 291, (3 hr. ea.); Agr. Econ. 104, 131 (3 hr. ea.); Agr. Educ. 134 (2 hr.); Agron. 210 (3 hr.), 254 (4 hr.); An. Husb. 138, 142, 202 (2 hr. ea.), 141, 142, 162, 226 (3 hr. ea.); Dairy Husb. 12 (3 hr.); Entom. 202 (4 hr.); For. 183 (3 hr.); Hort. 2 (3 hr.); Hist. 182 (3 hr.); Agr. Mech. 153, 175 (3 hr. ea.); An. Path. 206 (3 hr.); Pl. Path. 201 (4 hr.), 103, 201 (3 hr. ea.); Speech 11 (3 hr.); Zool. 271 (4 hr.).

CURRICULUM IN DAIRY HUSBANDRY

Degree: *Bachelor of Science in Agriculture*

The curriculum in Dairy Husbandry is planned to give the student interested in dairy production a thorough training in this field. It is designed to train leaders in the dairy field. Students completing this curriculum should be qualified to operate successfully their own farm or to serve as herdsmen, farm managers, fieldmen, county agricultural extension agents, milk sanitarians, etc., or to continue in the educational field.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
*Biol. 1	4	*Biol. 2	4	A. H. 11	3	Bact. 141	4
*Chem. 1	4	*Chem. 2	4	Chem. 131	4	*English 18	3
*English 1	3	D. H. 12	3	D. H. 11	3	*Mil. or Air Sci. 4	2
*Mil. or Air Sci. 1	2	*English 2	3	*Math. 2	3	*Physics 2	4
*Phys. Ed. 1	1	*Mil. or Air Sci. 2	2	*Mil. or Air Sci. 3	2	Agron. 1	4
Agr. Electives	3	*Phys. Ed. 2	1	*Physics 1	4		
	17		17		19		17

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Agron. 2	4	Agron. 254	4	Agr. Econ. 104	3	D. H. 222	4
*Agr. Econ. 102	3	D. H. 123	2	D. H. 107	3	Electives	15
D. H. 101	3	*Hist. 2	3	D. H. 221	3		
An. Path. 102	3	Speech 11	3	Electives	10		
Genetics 111 or 221	2-3	Electives	6				
*Pol. Sci. 101	3						
	18-19		18		19		19

*Constants required in all curricula.

Suggested Electives: P.H. 1; Agron. 205, 210; A.H. 167; Agr. Econ. 131, 230, 235; Agr. Mech. 153, 159, 170, 175; Dairy Bact. 236; D.H. 103, 195, 225, 226; Lib. Sci. 1; Agr. Biochem. 218.

CURRICULUM IN DAIRY MANUFACTURING

Degree: *Bachelor of Science in Agriculture*

The curriculum in Dairy Manufacturing is designed for those students planning to enter the dairy industry as plant men, fieldmen, or technicians.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
*Biol. 1	4	*Biol. 2	4
*Chem. 1	4	*Chem. 2	4
*English 1	3	D.H. 12	3
*Mil. or Air Sci. 1	2	*English 2	3
*Phys. Ed. 1	1	*Mil. or Air Sci. 2	2
Agr. Electives	3	*Phys. Ed. 2	1
	17		17

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 131	4	Bact. 141	4
D.H. 11	3	*English 18	3
*Math. 2	3	*Mil. or Air Sci. 4	2
Electives	3	*Physics 2	4
*Mil. or Air Sci. 3	2	Electives	6
Physics 1	4		
	19		19

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
D.H. 102	3	Agr. Econ. 235	2
*Agr. Econ. 102	3	Agr. Mech. 113	3
Dairy Bact. 246	4	D.H. 124	2
*Pol. Sci. 101	3	*Hist. 2	3
Electives	5	Speech 11	3
		Agr. Biochem. 218	3
		Electives	3
	18		19

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
D.H. 103	3	D.H. 104	3
D.H. 107	3	D.H. 204	4
Electives	11	D.H. 222	4
		Electives	7
	17		18

*Constants required in all curricula.

Suggested Electives: P.H. 1; Genetics 111 or 221; A.H. 11, 167; Chem. 105, 106; Agron. 1; Agr. Econ. 104, 230; Agr. Biochem. 101, 103; Accounting 1, 2; D.H. 101, 195, 221; Manag. 111, 112, 216; Mktg. 111, 112; Econ. 115; Finance 111.

CURRICULUM IN GENERAL AGRICULTURE

Degree: *Bachelor of Science in Agriculture*

The General Agriculture curriculum is designed to give the student expansive general training in the field of farming. It combines the fundamental sciences, basic arts, and practical applications of agriculture, and offers excellent instruction for those interested in extension work and other employment requiring a broad basic knowledge of the whole field of agriculture.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
*Biol. 1	4	*Biol. 2	4
*Chem. 1	4	*Chem. 2	4
*English 1	3	*English 2	3
*Mil. or Air Sci. 1	2	*Mil. or Air Sci. 2	2
*Phys. Ed. 1	1	*Phys. Ed. 2	1
Agr. Elective	3	Agr. Elective	4
	17		18

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 31	4	Agronomy 1	4
Dairy Husb. 11	3	*English 18	3
*Hist. 2	3	Hort. Elective	3
*Math. 2	3	P.H. 1	4
*Mil. or Air Sci. 3	2	*Mil. or Air Sci. 4	2
Elective	3	Elective	3
	18		19

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
*Agr. Econ. 102	3	Bact. 141	4
Agron. 2	4	*Physics 2	4
An. Husb. 101	3	Speech 11	3
*Physics 1	4	Pol. Sci. 101	3
Elective	3	Elective	4
	17		18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Agr. Econ. elect.	3	Agr. Econ. elect.	3
Agr. Econ. elect.	3	Agr. Econ. elect.	3
An. Path. 102 or Pl. Path. 201	3-4	Entom. 202	4
Genetics 221	3	Forestry 183	3
Electives	7-6	Electives	5
	19		18

*Constants required in all curricula.

CURRICULUM IN HORTICULTURE

Degree: Bachelor of Science in Agriculture

The Horticulture curriculum in production of fruits, vegetables, and flowers has been designed to meet the current needs of students who desire to have their own commercial enterprise or a sound professional training for filling a position with an established organization. The low investment required for the production of small fruits, vegetables, bulb crops, and nursery stock presents unlimited opportunities for young men with a thorough horticultural training. Small areas of tillable land in West Virginia demand the use of an intensive type of agriculture, and frequently the greatest return can be realized through the use of horticultural crops. Local marketing of such crops is no problem in West Virginia, since the demand exceeds the supply.

Certain courses offered in Horticulture are designed to interest non-agricultural students who desire to use the subject matter for improving their daily living or hobby interest. These courses deal with home grounds beautification in Horticulture 229, home vegetable and fruit production in Horticulture 1 and 2, and propagation in Horticulture 104.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
*Biol. 1	4	*Biol. 2	4	Chem. 131	4	Agron. 1	4
*Chem. 1	4	*Chem. 2	4	Agron. 2	4	Bact. 141	4
*English 1	3	*English 2	3	*Math. 2	3	*English 18	3
Hort. 2	3	*Mil. or Air Sci. 2	2	*Mil. or Air Sci. 3	2	Hort. 104 or 141	3
*Mil. or Air Sci. 1	2	*Phys. Ed. 2	1	*Physics 1	4	*Mil. or Air Sci. 4	2
*Phys. Ed. 1	1	Hort. 1	3			*Physics 2	4
	17		17		17		20

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
*Agr. Econ. 102	3	Entom. 202	4	Botany 273	4	Agr. Mech. elect.	3
Hort. 229	3	*Hist. 2	3	Genetics 221	3	Agron. 210	3
Plant Path. 201	4	Hort. 208	2	Hort. 151, 212, or 239	3	Hort. 104 or 141, or 232 and 234	3
*Pol. Sci. 101	3	Plant Path. 204, 205, or 206	2	Electives	8	Electives	9
Hort. 206	3	Electives	7				
Electives	3						
	19		18		18		18

*Constants required in all curricula.

Suggested Electives: Agr. Econ. 104, 131; Agr. Mech. 20, 151, 159, 170; Agron. 205, 211, 216, 230, 251; Art 11, 12 30; Geol. 1; Bus. Adm. 245, 270; Dairy Husb. 11; Econ. 111; Entom. 203; Forestry 183; Hort. 140, 181, 239; Languages; Lib. Sci. 1; Math. 4; Poult. Husb. 1; Speech 11; Agr. Biochem. 103.

CURRICULUM IN ORNAMENTAL HORTICULTURE

Degree: Bachelor of Science in Agriculture

The field of ornamental horticulture is broad, for it includes the work of nurserymen and landscape operators as well as greenhousemen and florists, both in production and merchandising. The demand for trained personnel in ornamental horticulture greatly exceeds the present supply. Because of this, opportunities for employment of graduates are increasing.

The first two years are devoted to a broad, basic foundation as preparation for specialization during the junior and senior years. Emphasis is placed on a sound understanding of the basic principles involved. Because of the breadth of this field, one summer's work or practice with a commercial concern which emphasizes sound nursery practices, garden construction, and maintenance is desirable.

Students with a city background will fit into this field much more readily than in some other phases of agriculture.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
*Biol. 1	4	*Biol. 2	4
*Chem. 1	4	*Chem. 2	4
*English 1	3	*English 2	3
Hort. 2	3	Hort. 1	3
*Mil. or Air Sci. 1	2	*Phys. Ed. 2	1
*Phys. Ed. 1	1	*Mil. or Air Sci. 2	2
		Electives	1
	17		18

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Art 11	3	Bact. 141	4
Chem. 131	4	*English 18	3
*Math. 2	3	Hort. 140	3
*Mil. or Air Sci. 3	2	Hort. 141	3
M.E. 20	3	*Mil. or Air Sci. 4	2
Electives	3	*Hist. 2	3
	18		18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
*Agr. Econ. 102	3	Agr. Mech. (Elec.)	3
Agron. 2	4	Entomology 202	4
Hort. 151	3	Hort. 104	3
Hort. 229	3	Hort. 208	2
Pl. Path. 201	4	Electives	7
Electives	2		
	19		19

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Botany 273	4	*Physics 2	4
Genetics 221	3	Pl. Path. 205	2
Hort. 239	3	*Pol. Sci. 101	3
*Physics 1	4	Electives	9
Electives	4		
	18		18

*Constants required in all curricula.

Suggested Electives: Agr. Econ. 104, 131; Agr. Mech. 151, 152, 175; Agron. 1, 210, 211, 216, 230, 251; Art 12, 30; A.H. 11; Geol. 1; Botany 161, 218, 227, 231, 236, 266; Dairy Husb. 11; Econ. 111; Entom. 203; Forestry 183; Hort. 181, 206; Libr. Sci. 1; Speech 11; Languages; Accounting 1.

CURRICULUM IN POULTRY HUSBANDRY

Degree: *Bachelor of Science in Agriculture*

The curriculum in Poultry Husbandry is designed to give the student a thorough knowledge of subject matter necessary for poultry raising, poultry improvement work, management of a poultry breeding farm, and as a basis for graduate training for teaching and research in Poultry Husbandry. Students may select elective courses to meet their special needs.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
*Biol. 1	4	*Biol. 2	4
*Chem. 1	4	*Chem. 2	4
*English 1	3	*English 2	3
*Mil. or Air Sci. 1	2	*Mil. or Air Sci. 2	2
*Phys. Ed. 1	1	*Phys. Ed. 2	1
Agr. elective	4	P.H. 1	4
	18		18

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 31	4	Bact. 141	4
*Agr. Econ. 102	3	*English 18	3
*Math. 2	3	*Mil. or Air Sci. 4	2
*Mil. or Air Sci. 3	2	*Physics 2	4
*Physics 1	4	Electives	4
Electives	3		
	19		17

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Genetics 221	3	*Hist. 2	3
*Pol. Sci. 101	3	P.H. 103	3
An. Path. 102	3	Electives	12
P.H. 106	2		
Electives	7		
	18		18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
P.H. 108	1	P.H. 109	1
P.H. 201	3	P.H. 195	1
P.H. 212	3	An. Path. 206	3
Zool. 271	4	Electives	13
Electives	7		
	18		18

*Constants required in all curricula.

Electives: A minimum of 3 hrs. each is required in Agronomy, Animal Husbandry, and Horticulture.

Suggested Electives: Agr. Econ. 104, 131; A.H. 11, 101, 167, 225; Agron. 1, 2; D.H. 11, 226 Hort. 1; Entom. 202; P.H. 105, 110, 213; Speech 1; Agr. Mech. 159, 170; Agr. Biochem. 201.

BACHELOR OF SCIENCE

The curriculum leading to the degree of Bachelor of Science is designed for those who are interested in teaching agricultural science and especially interested in research.

CURRICULUM IN AGRICULTURAL SCIENCE

Degree: *Bachelor of Science*

Students who expect to do graduate work in preparation for teaching agricultural science in colleges and universities or for research work in experiment stations, or for other work in specialized fields of basic agricultural science, may register for the Curriculum in Agricultural Science. Only students who have a high-school record above average and who are capable of maintaining a scholarship average of "B" or above should follow this curriculum. Success in graduate work will depend upon better-than-average undergraduate scholarship, and such undergraduate work must include adequate preparation in biology, mathematics, English, and foreign languages. The degree of Bachelor of Science is conferred upon the satisfactory completion of this curriculum. At least 45 hours of courses in the College of Agriculture are required.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
*Biol. 1	4	*Biol. 2	4	Bact. 141	4	*Hist. 2	3
*Chem. 1	4	*Chem. 2	4	Chem. 5	4	*Mil. or Air Sci. 4	2
*English 1	3	*English 2	3	*English 18	3	Speech 11	3
Math. 2 or 3	3-4	Math 3 or 4	3	Math. 4 (if not		Chem. 6	4-5
*Mil. or Air Sci. 1	2	*Mil. or Air Sci. 2	2	taken earlier)	3	Electives	4
*Phys. Ed. 1	1	*Phys. Ed. 1	1	*Mil. or Air Sci. 3	2		
				Electives	3		
	17-18		17		19		16-17

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
*Agr. Econ. 102	3	†German, French		Electives	18	Electives	18-19
Chem. 233	5	or Spanish	3				
†German, French		*Physics 2	4				
or Spanish	3	Pol. Sci. 101	3				
*Physics 1	4	Electives	8				
Electives	3						
	18		18		18		18-19

*Constants required in all curricula.
†Take in junior or senior year.
At least 45 hours of agriculture are required.

CURRICULUM IN PRE-VETERINARY MEDICINE

This course of study is designed to meet the requirements for the Colleges of Veterinary Medicine of Ohio State University and Oklahoma State University. Four students a year will be accepted by each of the above schools. Summer courses are not required, but if work is not taken in the summer, three years of study would be required. Many students will find it advantageous to obtain a degree in Agriculture before going to a veterinary school. The courses listed in the Pre-Veterinary Medicine Curriculum may be used for credit toward a degree in Agriculture.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
*English 1	3	*English 2	3
*Chem. 1	4	*Chem. 2	4
Zool. 1	4	Zool. 2	4
Botany 1	4	P.H. 1	4
*Mil. or Air Sci. 1	2	*Mil. or Air Sci. 2	2
*Phys. Ed. 1	1	*Phys. Ed. 2	1
	18		18

SUMMER SESSION

First Term	*Hr.*	*Second Term*	*Hr.*
*Physics 1	4	*Physics 2	4
Elective	3	Speech 11	3
	7		7

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
*Pol. Sci. 101	3	Chem. 115	3
A.H. 101	3	D.H. 12	3
Chem. 131	4	Genetics 111	
Chem. 105	4	and 112	3
*Agr. Econ. 102	3	History 52 or 53	3
*Mil. or Air Sci. 3	2	*Mil. or Air Sci. 4	2
		Electives	3
	19		17

SUMMER SESSION

First Term	*Hr.*
Zool. 231	5
	5

*Constants required in all curricula.

BACHELOR OF SCIENCE IN AGRICULTURAL ENGINEERING

Degree: Bachelor of Science in Agricultural Engineering.

Agricultural Engineering is the application of engineering principles to agriculture. Success in the application to engineering fundamentals to the agricultural industry requires knowledge of both biological and physical sciences. The purpose of the course is to give the student who completes it general training in agriculture and in engineering fundamentals. Considerable stress is given to the basic requirements of animal and plant life on the farm which affect engineering practices, but greater emphasis is made on a thorough knowledge of those underlying principles and methods which are the foundation of all engineering professions.

Although the curriculum gives no opportunity for specialization, Agricultural Engineering is made up of four major fields. These are Farm Power and Machinery, Farm Structures, Soil and Water Conservation, and Electric Power and Processing.

Students preparing to take Agricultural Engineering should present for entrance as many units as possible in mathematics, chemistry, and physics.

Some of the organizations and industries employing agricultural engineers are electric power companies and co-operatives; farm machinery manufacturers and distributors; manufacturers and distributors of building materials; oil companies; electric equipment and other suppliers for farm utilities; trust companies; farm management agencies; federal agencies such as Soil Conservation Service, U. S. Department of Agriculture, Federal Land Bank, and Indian Service; colleges and universities; Army and Navy, and foreign governments.

Opportunities for employment are numerous. At no time since the establishment of the profession has it been crowded, and the outlook is good for a continuance of this situation. With agriculture becoming increasingly mechanized, the demand for agricultural engineers is increasing and should continue to increase. New opportunities arise as mechanization continues. Starting salaries are in line with salaries in other branches of engineering.

CURRICULUM IN AGRICULTURAL ENGINEERING

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
*Chem. 1	4	*Chem. 2	4
*English 1	3	*English 2	3
Math. 3	3	Math. 5	4
Math. 4	3	I.E. 11	2
History 53	3	M.E. 20	3
*Mil. or Air Sci. 1	2	*Mil. or Air Sci. 2	2
*Phys. Ed. G. 1	1	*Phys. Ed.	1
	0		
	19		19

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Physics 111	5	Physics 112	5
Math. 107	4	Math. 108	4
Agr. Eng. 10	3	M. 101	3
M.E. 26	2	M.E. 39	2
*Agr. Econ. 102	3	English 126	3
*Mil. or Air Sci. 3	2	*Mil. or Air Sci. 4	2
	19		19

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Agron. 2	4	C.E. 1	2
Agr. Econ. 104	3	C.E. 115	3
M. 102	3	M. 103	3
M. 104	3	M.E. 121	3
I.E. 1	1	E.E. 106	4
E.E. 105	4	Agr. Eng. 100	3
	18		18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
M.E. 113	3	Agron. 1	4
Agr. Eng. 110	3	Speech 11	3
Agr. Eng. 140	3	Agr. Eng. 190	3
Agr. Eng. 200	1	Elect. (Agr.)	3
Agr. Eng. 230	4	Elect. (Eng'g.)	3
Elect. (Agr.)	3	Elect. (Non-tech.)	3
	17		19

Agricultural Electives may be selected from Agron. 230, Dairy Husb. 11, 12, An. Husb. 11, Poultry Husb. 1, or Hort. 1, 2, 229.

Engineering Electives may be selected from Agr. Eng. 240, Chem. Eng. 250, 284, Civil Eng. 122, I.E. 140, M.E. 203, or Geology 1.

Non-Technical Electives may be selected from Rural Soc. 105, Pol. Sci. 101, Hist. 2, 52, Psych. 1, Philosophy 4, or Sociol. 206.

GRADUATE WORK

Graduate work leading to the Master of Science Degree is offered in all branches of agriculture, and in home economics education. In certain branches, courses leading to the degree of Doctor of Philosophy are offered. For those students in agriculture and home economics who wish additional training beyond the baccalaureate degree, but who desire breadth of training rather than specialization in one subject matter field, the degrees of Master of Agriculture and Master of Home Economics are available. The student who plans to pursue graduate work is directed to the *Announcements of the Graduate School* or to the corresponding announcements in the *University Catalog*.

Advancement in any of the professional fields is dependent upon graduate study, and the student desiring to pursue such work should plan to continue in graduate study upon completion of the undergraduate curriculum. A limited number of graduate assistantships which permit half-time devotion to study are available in the Division of Agriculture and the Experiment Station.

Teachers of vocational agriculture may combine graduate work in Agriculture and Education by taking 16 to 20 hours in Agriculture and 10 to 14 hours in Education to fulfill requirements for the M.S. Degree.

COURSES OF INSTRUCTION

Only the technical courses offered primarily for students in Agriculture are described here. For detailed description of other courses listed as required or elective in the agricultural curriculum, see the announcement of courses in the College of Arts and Sciences or in other colleges.

Admission to any advanced elective course is conditional upon the consent of the instructor.

ASSIGNED TOPICS

In order to be eligible to take courses 180, 181, Assigned Topics, the student must:

1. Have completed 100 hours of work and have a grade-point average of 2.5 or above.

2. Present, in advance, a written outline of the work to be done as an assigned topic. This outline must be acceptable to the Dean of the College and the department head concerned.

Item 1 above does not apply to special students.

A student may not receive credit toward graduation for more than 4 hours of assigned topics.

AGRICULTURE

Dean KOTTMAN, Associate Statistician DUNBAR and STAFF.

11, 12. PROFESSIONS IN AGRICULTURE. I, II. 2 hr. Survey of the subject matter disciplines and of the career opportunities available to students in the Division of Agriculture. Dean Kottman and Staff

211. STATISTICAL METHODS. I. 3 hr. Statistical concepts and methods applied to date in biological and other fields. Measure of centrality and dispersion; normal distribution; population and sampling; estimation and tests of hypotheses concerning means and variance; analysis of variance; regression and correlation; enumeration statistics. Mr. Dunbar

212. ADVANCED STATISTICAL METHODS. II. 3 hr. PR: Agr. 211 or equiv. Continuation of Agr. 211. Statistical concepts and methods. Analysis of variance with two or more variables; factorial comparisons; covariance; multiple regression; and curvilinear regression. Mr. Dunbar

320, 321, 322, 323. SPECIAL TOPICS. I, II, S. 2-4 hr. PR: consent. Advanced study in such topics as analysis of non-orthogonal data, estimation of variance and covariance components, transformations for normality of distribution, efficiency of experiments, and non-parametric methods of estimation. Mr. Dunbar

360. PROBLEM REPORT FOR THE DEGREE OF MASTER OF AGRICULTURE. I, II, S. 1-3 hr. Staff

AGRICULTURAL BIOCHEMISTRY AND NUTRITION

Professors LEWIS and SHELTON; Associate Professor MCLAREN.

Chemistry courses for agricultural and home economics students are also offered in the College of Arts and Sciences and the School of Medicine.

Undergraduate Division

101. INTRODUCTORY PLANT AND ANIMAL BIOCHEMISTRY. II. 3 hr. PR: Chem. 1 and 2, Chem. 31 or 131 or equiv. An introductory course of the biochemistry of carbohydrates, proteins, lipids, vitamins, enzymes, minerals and hormones of plants and animals. Mr. Shelton

103. AGRICULTURAL ANALYSIS. I. 3-5 hr. The principles of gravimetric and volumetric analysis, colorimetry, chromatography, bioassay and proximate analysis applied to the analysis of foods, feeds, and other agricultural materials. Mr. Lewis

180, 181. ASSIGNED TOPICS. I, II. 1-4 hr. per sem. Staff

218. DAIRY CHEMISTRY. II. 3 hr. PR: organic chemistry, (agricultural analysis, or quantitative analysis desirable.) Analysis of dairy products. Offered in 1960-61 and alternate years. Mr. Shelton

290. GENERAL BIOCHEMISTRY. I. 3 hr. PR: organic chemistry, quantitative analysis and consent of Instr. A general course in biochemistry primarily intended to meet the needs of graduate students. Mr. Lewis

291. GENERAL BIOCHEMISTRY. II. 3 hr. PR: Agr. Biochem. 290 or consent of Instr. A continuation of Agr. Biochem. 290. Mr. McLaren

293. Laboratory Experiments in Biochemistry. I. 2 hr. PR: Agr. Biochem. 290 or concurrent registration. Experiments to demonstrate certain phases of the subject matter covered in General Biochemistry. Offered in 1960-61 and alternate years. Staff

Graduate Division

301. Enzymes. I. 3 hr. PR: Agr. Biochem. 290 or consent of Instr. A general survey of the chemistry of enzymes for the advanced student. Offered in 1960-61 and every third year. Mr. McLaren

302. Biochemistry of Nutrition. II. 4 hr. PR: Agr. Biochem. 290 or equiv. Advanced study of nutrition emphasizing vitamins, digestion, adsorption, and metabolism. Biochemical techniques for nutrition studies. Offered in 1960-61 and every third year. Mr. Shelton

303. Biochemistry of Carbohydrates. I. 3 hr. PR: Agr. Biochem. 290 or consent of Instr. The structure, properties, and metabolism of monosaccharides, oligosaccharides, and polysaccharides. Offered in 1959-60 and every third year. Mr. McLaren

304. Biochemistry of the Amino Acids and Proteins. I. 3 hr. PR: Agr. Biochem. 290 or consent of Instr. Advanced study of the amino acids and proteins. Offered in 1961-62 every third year. Mr. Shelton

305. Biochemistry of the Lipids. II. 2 hr. PR: Agr. Biochem. 290 or consent of Instr. A consideration of the composition, analysis, processing, and metabolism of fats and other lipids for advanced students. Offered in 1961-62 and every third year. Mr Lewis

320, 321, 322, 323. Special Topics. I, II, S. 2-4 hr. Advanced training will be provided, through literature surveys and special research projects, in such areas of biochemistry as carbohydrates, lipids, proteins and amino acids, biochemical techniques, animal nutrition and metabolism. Staff

324. Advanced Biochemistry Laboratory. II. 2 hr. PR: Agr. Biochem. 290. Nutritional problems with animals. Techniques and methods such as bomb calorimetry, column chromatography, fluorometry, spectrophotometry, microbiological analysis, manometry, and other applicable techniques. Offered in 1960-61 and alternate years. Staff

325. Advanced Biochemistry Laboratory. I. 2 hr. PR: Agr. Biochem. 290 or concurrent registration. Methods and techniques in the study of proteins and related subjects, including principles of fractionation, electrophoresis, ion exchange, lyophilization, microbiologcal analysis, and other applicable techniques. Offered in 1959-60 and alternate years. Staff

326. Advanced Biochemistry Laboratory. II. 2 hr. PR: Agr. Biochem. 290. Special techniques used in the study of lipids, enzymes, and carbohydrates, such as distillation at low pressure, low temperature, fractional crystallization, counter current distribution, purification of enzymes, kinetic studies, and glass blowing. Offered in 1959-60 and alternate years. Staff

350, 351, 352, 353. Seminar. I, II. 1 hr. per sem. Staff

380 381, 382, 383. Research. I, II, S. 1-6 hr. per sem. Staff

AGRICULTURAL ECONOMICS AND RURAL SOCIOLOGY

Professor Armentrout; Associate Professors Clarke, Evans, and Toben; Assistant Professor Sizer.

AGRICULTURAL ECONOMICS

Undergraduate Division

102. Agricultural Economics. I. 3 hr. Principes with application to agriculture. Mr. Armentrout and Mr. Evans

104. Farm Management. I. 3 hr. PR: Agr. Econ. 102. Types and systems of farming; considerations in starting farming; use of records in solving farm problems; land tenure and leases; production for family use. Mr. Toben

131. Marketing Agricultural Products. II. 3 hr. PR: Agr. Econ. 102. Principles and practices. Tour of market facilities in Pittsburgh area required. Mr. Clarke

180, 181. Assigned Topics. I and II. 1-4 hr. per sem. Staff

200. Land Economics. II. 3 hr. Classification, development, tenure, use, conservation, valuation and taxation of rural, urban, mineral, forest, water and recreational land resources. Staff

206. Farm Planning. I. 3 hr. PR: Senior Standing. Principal factors influencing returns on farms; planning use of labor, soil, crops, livestock, buildings, and equipment. Farm visits required. Mr. Toben

230. Cooperative Marketing. II. 2-3 hr. PR: Agr. Econ. 102. Principles and practices of cooperation as applied to marketing of agricultural products and to purchase of farm supplies. Offered in 1959-60 and alternate years. Mr. Clarke

235. Marketing Dairy Products. II. 2 hr. PR: Agr. Econ. 102. Milk-marketing policies and practices, including federal milk-market orders. Offered in 1960-61 and alternate years. Mr. Clarke

271. Agricultural Policy. II. 2 hr. An examination of the economic aspects of government price programs, production and marketing controls, subsidies, parity, export and import policies, and other programs affecting agriculture. Offered in 1960-61 and alternate years. Mr. Armentrout

Graduate Division

320, 321, 322, 323. Special Topics. I, II, S. 2-4 hr. (For the Master's Degree, Special Topics ordinarily may count 2 to 4 hr.; maximum credit, 6 hr.) Staff

340. Advanced Farm Management. I. 3 hr. PR: Agr. Econ. 206. Mr. Toben

341. Production Economics. I. 3 hr. Economic principles of production with special application to agriculture. Staff

342. Advanced Agricultural Economics. II. 3 hr. Mr. Armentrout

380, 381, 382, 383. Research. I and II. 1-6 hr. per sem. Staff

RURAL SOCIOLOGY

Undergraduate Division

105. Sociology of Rural Life. II. 3 hr. Social aspects of rural living; characteristics of rural population, social structure, and institutional arrangements (family, community, education, religion, recreation, health, welfare, and local government). Mr. Sizer

Graduate Division

320, 321, 322, 323. Special Topics. I, II, S. 2-4 hr. (For the Master's Degree, Special Topics may count 2 to 4 hr.; maximum credit, 6 hr.) Staff

380, 381, 382, 383. Research. I and II. 1-6 hr. per sem. Staff

AGRICULTURAL EDUCATION

Professor Butler; Assistant Professors Kelly and Swecker; Lecturer Harvey.

Undergraduate Division

118. Organizations and Clubs for Farm Boys. II. 2 hr. Problems involved in directing the activities of FFA, and similar organizations. Mr. Swecker or Mr. Kelly

134. Methods of Agricultural Extension. I. 2 hr. Activities of the county agricultural and home demonstration agents and of the agricultural extension programs in West Virginia. Mr. Harvey

138. Theory and Practice of Agricultural Extension Work. II. 2 hr. Methods used in Extension work and their underlying principles. Mr. Harvey

Ed. 160. Materials and Methods of High-School Teaching of Vocational Agriculture. I. 3 hr. Organization and preparation for teaching vocational agriculture in the high school. Mr. Butler and Staff

180, 181. Assigned Topics. I, II. 1 hr. 1-4 hr. per sem. PR: Adequate ability and training for the work proposed and permission to register. Staff

Ed. 124. Student Teaching in Vocational Agriculture. I, II. 4 hr. Mr. Butler and Staff

Ed. 276. Teaching Young and Adult Farmer Classes. I, SI. 2 hr. PR: Ed. 105, 106. Participation in conducting young and adult farmer classes and school-community food preservation center; organization, course of study, methods of teaching and supervision of the classes, and young farmer's associations. Mr. Butler and Staff

Ed. 277. Organizing and Directing Supervised Farming Programs. I, SI. 2 hr. PR: Ed. 160 or consent. Planning programs of supervised farming, supervising and evaluating such programs for all-day students, young farmers, and adult farmers. Mr. Butler and Staff

Ed. 318. Planning Programs and Courses for Vocational Agriculture Departments. II, SI. 2 hr. PR: Ed. 160, 124. Gathering data, studying the farming problems of all-day students, young farmers and adult farmers. Mr. Bulter

Graduate Division

239. Program Building in Agricultural Extension. II. 3 hr. PR: Agr. Educ. 134, 138, or permission of the Instr. Rural organization in relation to program building. Leadership and group action. Over-all working and educational objectives. Principles, methods, and goals in developing county extension programs. Mr. Harvey and Mr. Sizer

320, 321, 322, 323. Special Topics. I, II, S. 1-4 hr. (For the Master's Degree, Special Topics ordinarily may count for 2 to 4 hr.; maximum credit, 6 hr.) Staff

350, 351, 352, 353. Seminar. I, II, SI. 1 hr. Staff

360. Problems. I, II, S. 1-3 hr. (For the Master's Degree). Staff

380, 381. Research. I and II. 1-6 hr. per sem. Staff

AGRICULTURAL ENGINEERING AND AGRICULTURAL MECHANICS

Professors Longhouse and Dickerson; Assistant Professors Emerson, Flesher, and Phillips; Instructor Elliott.

AGRICULTURAL ENGINEERING

Undergraduate Division

10. Introductory Agricultural Engineering. I. 3 hr. A general course introducing the several fields of Agricultural Engineering and how they are applied in agriculture and industry. 3 hr. rec. Mr. Longhouse

100. Farm Structures. II. 3 hr. PR: M. 102. Structural design and functional requirements of farm service buildings. 2 hr. rec. 3 hr. lab. Mr. Longhouse and Mr. Elliott

110. Application of Electricity to Agriculture. I. 3 hr. PR: E.E. 106. Economic application of electric light, heat, and power. 2 hr. rec., 3 hr. lab. Mr. Flesher

140. Soil and Water Conservation. I. 3 hr. PR: C.E. 115. Engineering principles and practices in conservation, utilization, and management of soil and water resources. 2 hr. rec., 3 hr. lab. Mr. Dickerson

180, 181. Assigned Topics. I, II. 1-4 hr. per sem. Staff

190. Farm Machinery. II. 3 hr. PR: M.E. 113. Construction, operation, adjustment and testing of farm machines. 2 hr. rec., 3 hr. lab. Mr. Phillips

200. Seminar. I. 1 hr. PR: Senior standing. Staff

230. Farm Power. I. 4 hr. PR: M.E. 121. Fundamental theories underlying design and operation of internal combustion engines used in agriculture. 3 hr. rec. Mr. Longhouse and Mr. Elliott

240. Hydrology. I. 3 hr. PR: C.E. 115. The study of a hydrologic cycle with emphasis on precipitation and runoff as related to design of hydraulic structures, soil and water conservation, and flood control. Mr. Dickerson

Graduate Division

320, 321. Special Topics. I, II, S. 1-6 hr. (For the Master's Degree, Special Topics ordinarily may count 2 to 4 hr.; maximum credit, 6 hr.) Staff

397. Research. I and II. 1-6 hr. Staff

AGRICULTURAL MECHANICS

Undergraduate Division

113. Farm Refrigeration. II. 3 hr. PR: Math. 2. General course for agricultural students in farm refrigeration. Different types of refrigeration systems, refrigeration plants, cold storage, food preservation, and storage-house construction. 2 hr. rec., 3 hr. lab. Mr. Flesher

151. Mechanics of Soil and Water Conservation. I. 3 hr. PR: Math. 2. Planning and installation of farm land drainage, contour strip cropping, terracing, and farm ponds. 2 hr. rec., 3 hr. lab. Mr. Dickerson

152. Farm Shop. I. 3 hr. PR: Math. 2. Construction and repair problems including carpentry, metal working, forging, fitting tools, repairing harness, and filing saws. Primarily for Vocational Agriculture teachers. 1 hr. rec., 6 hr. lab. Mr. Emerson

153. Farm Machinery. II. 3 hr. PR: Math. 2. Principles underlying construction, adjustment, care, use, and repair of farm machinery. Tillage, harvesting, and seeding machinery. 2 hr. rec., 3 hr. lab. Mr. Phillips

155. Household Equipment. II. 2 hr. PR: Math. 2. Planned to help students understand mechanical equipment in home and its effective use. 1 hr. rec., 3 hr. lab. Staff

159. Farm Structures. II. 3 hr. PR: Math. 2. Fundamental principles of farm building construction. 2 hr. rec., 3 hr. lab. Mr. Longhouse and Mr. Elliott

170. Rural Electrification. I. 3 hr. PR: Math. 2. Fundamentals of electricity and its application in the home and on the farm. Open to agricultural students only or by consent. 2 hr. rec., 3 hr. lab. Mr. Flesher

175. Farm Gas Engines and Tractors. I. 3 hr. PR: Math. 2. General course for agricultural students in care, operation, and maintenance of farm gas engines and tractors. 2 hr. rec., 3 hr. lab. Mr. Longhouse and Mr. Elliott

180, 181. Assigned Topics. I, II, S. 1-4 hr. per sem. Staff

200. Rural Water Supply and Sanitation. II. 2 hr. PR: Agr. Mech. 170. Pump principles, planning installations of water systems, and sewage disposal systems. 1 hr. rec., 3 hr. lab. Mr. Emerson

252. Advanced Farm Mechanics. II. 3 hr. PR: Agr. Mech. 152. Forging, cold-iron work, tool fitting, woodworking. Offers training for teaching shopwork in rural high schools. Mr. Emerson

253. Advanced Farm Machinery. II. 3 hr. PR: Agr. Mech. 153. Trends and economic use of farm machinery. Primarily for graduate vocational agriculture teachers. Open to agriculture students only or by consent. 2 hr. rec., 3 hr. lab. Mr. Phillips

254. Farm Maintenance and Construction Welding. II. 3 hr. PR: Agr. Mech. 153. Characteristics and properties of metals used in farm machinery and equipment. Machinery repair, including oxacetyene cutting and welding, AC and DC electric. 1 hr. lec., 2 3-hr. labs. Mr. Emerson

255. Care and Repair of Home Equipment. II. 2 hr. For advanced undergraduate and graduate students. Construction, maintenance, and repair of household equipment. Their comparative cost and economic use. 1 hr. rec., 3 hr. lab. Staff

259. Functional Requirements of Farm Buildings. I. 3 hr. PR: Agr. Mech. 159 or consent. Special problems *re* livestock and storages. 2 hr. rec., 3 hr. lab. Mr. Longhouse and Mr. Elliott

270. Electricity in Agriculture. I. 3 hr. PR: Agr. Mech. 170 or consent. 2 hr. rec., 3 hr. lab. Staff

Graduate Divisions

320, 321, 322, 323. Special Topics. I, II, S. 2-4 hr. (For the Master's Degree, Special Topics ordinarily may count 2 to 4 hr.; maximum credit, 6 hr.) Staff

380, 381. Research. I and II. 1-6 hr. per sem. Staff

AGRONOMY AND GENETICS

Professor Pohlman; Associate Professors Baughman and Veatch; Assistant Professors Jencks, Johnson, Jung, Ulrich, and van Eck; Instructors Crum, Raese and Rumbach.

AGRONOMY

Undergraduate Division

1. Farm Crops. II. 4 hr. PR: Botany 2 or 104, or Biol. 2. An introduction to general field crop production. 3 lect., 1 lab. Mr. Johnson

2. Soils. I. 4 hr. PR: Chem. 2. An introduction to soil science. 3 lec., 1 lab. Mr. Pohlman and Mr. Raese

10. Forest Soils. I. 4 hr. PR: Chem. 2. Introduction to soil science with particular emphasis on forest soils. 3 lec., 1 lab. Mr. van Eck

180, 181. Assigned Topics. I, II. 1-4 hr. per sem. Staff

205. Soil Conservation. II. 3 hr. PR: Agron. 2 or 10. Principles of soil and water conservation in relation to soil erosion control, upstream flood control, physical land degradation, and agricultural crop production. 2 lec., 1 lab. Offered in 1960-61 and in alternate years. Staff

210. Fertilizer and Soil Fertility. I. 3 hr. PR: Agron. 2 or 10. Soil properties in relation to fertility and productivity of soils; evaluation of soil fertility; production of fertilizers and their use in increasing the fertility and productivity of soils. Staff

211. Soil Management. II. 3 hr. PR: Agron. 2 or 10. Using soil technology to solve soil management problems relating to cropping systems. Field diagnosis of soil problems will be stressed. Two half-day farm visits. Offered in 1960-61 and in alternate years. Mr. Jencks

216. Soil Classification and Judging. II. 3 hr. PR: Agron. 2 or 10. The classification and mapping of soils. Theory and practice in soil classification, soil mapping, and land judging. Offered in 1959-60 and in alternate years. Mr. van Eck

230. Soil Physics. I. 3 hr. PR: Agron. 2 or 10. Physical properties of soils, water, and air relationships and their influence on soil productivity. Offered in 1960-61 and alternate years. 2 lec., 1 lab. Mr. Baughman

251. Weed Control. I. 2 hr. PR: Agron. 1 and 2. Fundamental principles of weed control. Recommended control measures for and indentification of common weeds. Mr. Veatch

252. Grain and Special Crops. II. 3 hr. PR: Agron. 1 and 2. Advanced study of methods in the production of grain and special crops. Varieties, improvement, tillage, harvesting, storage and uses of crops grown for seed or special purposes. Offered in 1960-61 and alternate years. Mr. Veatch

254. Pasture and Forage Crops. II. 4 hr. PR: Agron. 1 and 2. All phases of pasture and forage crop production, including identification, seeding, management, use, seed production, and storage of forage crops. 3 lect., 1 lab. Mr. Jung

Graduate Division

316. Soil Chemistry. I. 3 hr. PR: consent. Fundamental chemical properties of soils in relation to plant growth; nature and properties of soil colloids; base exchange and soil acidity; availability of plant food elements and soil-plant interrelationships. Offered in 1959-60 and alternate years. Mr. Jencks

320, 321, 322, 323. Special Topics. I, II, S. 2-4 hr. (For the Master's Degree, Special Topics ordinarily may count 2 to 4 hr.; maximum credit, 6 hr.) Staff

350, 351, 352, 353. Seminar. I, II. 1 hr. per sem. Recent literature pertaining to soil and crop production. Staff

380, 381, 382, 383. Research. I, II. 1-6 hr. per sem. Staff

BACTERIOLOGY

314. Soil Microbiology. II. 4 hr. PR: Agron. 2 and Bact. 141. Occurrence of microorganisms in soils and their relationship to decomposition of organic matter, availability of plant nutrients, and soil acidity; technique of isolation and study. Mr. Wilson

GENETICS

Undergraduate Division

†111. Elementary Genetics. I, II. 2 hr. PR: 6 hr. of biological science. Elementary study of the principles of heredity. Mr. Ulrich

112. Genetics Laboratory. I, II. 1 hr. Breeding experiment with Drosophila. Mr. Crum

180, 181. Assigned Topics. 2-4 hr. PR: Genetics 111 or 221 and consent. Staff

220. Crop Breeding. II. 3 hr. PR: Gen. 111 or 221. Methods and basic scientific principles involved in the improvement of leading cereal and forage crops through hybridization and selections. Offered in 1959-60 and alternate years. Mr. Veatch

221. Genetics. I. 3 hr. PR: 8 hr. in biological science. Fundamental principles of inheritance. Mr. Ulrich

222. Advanced Genetics. II. 3 hr. PR: Genetics 111 or 221 and consent. Mr. Ulrich

224. Human Genetics. II. 2 hr. PR: Genetics 111 or 221. A study of inheritance in man. Mr. Ulrich

Graduate Division

320, 321, 322, 323. Special Topics. I, II, S. 2-4 hr. (For Master's Degree, Special Topics ordinarily may count 2 to 4 hr.; maximum credit, 6 hr.) Staff

350, 351, 352, 353. Seminar. I, II. 1 hr. per sem. Recent literature pertaining to breeding, genetics, and cytology. Staff

380, 381, 382, 383. Research. I, II. 1-6 hr. per sem. Staff

ANIMAL HUSBANDRY

Professors Anderson and Olson; Associate Professors Kidder and Welch; Assistant Professors Dozsa and Horvath.

ANIMAL HUSBANDRY

Undergraduate Division

11. Types, Breeds, and Market Classes. I. 3 hr. Mr. Welch

†Students majoring in curricula requiring Genetics 221 may not receive credit for Genetics 111, and credit will not be given for Genetics 221 to those students who have previously earned credit for Genetics 111.

101. Animal Nutrition. I. 3 hr. Digestion and metabolism of food nutrients, nutrient requirements of farm animals, and nutritive values of feeds and rations. Mr. Anderson

138. Grading and Selection. II. 2 hr. (2 labs.) Mr. Kidder

141. Beef Production. I. 3 hr. (1 lab.) Mr. Kidder

142. Pork Production. II. 3 hr. (1 lab.) Mr. Horvath

143. Advanced Judging. I. 2 hr. (2 labs.) Students taking this course will be required to participate in a tour of inspection of representative flocks and herds. Mr. Kidder

162. Sheep Production. II. 3 hr. (1 lab.) Mr. Welch

166. Meats. II. 2 hr. Lectures and demonstrations in identification, selection, and nutritive value of meat cuts. Primarily for home economics students. Staff

167. Meats. I. 3 hr. (2 labs.) Farm butchering, curing, and care of meats. Visit to one of the large packing houses of Pittsburgh required. Staff

169. Meat Judging. I. 2 hr. Tour of representative packing plants required. Staff

180, 181. Assigned Topics. I, II. 1-4 hr. per sem. Staff

195. Seminar. II. 1 hr. Primarily for seniors. No credit for graduate students. Mr. Anderson and Staff

202. Advanced Meats. II. 3 hr. (2 labs.) PR: A.H. 167. Studies covering complete correlation of animal types, quality and finish as against carcass yields, percentage, cuts, etc. Staff

223. Advanced Livestock Production. I. 3 hr. (1 lab.) PR: A.H. 101. Phases of beef production involving problem work in specialized commercial and purebred fields, including processing. Mr. Kidder

224. Advanced Livestock Production. II. (1 lab.) PR: A.H. 101. Special studies in wool and market-lamb production, including processing. Mr. Welch

225. Reproduction of Farm Animals. II. 3 hr. PR: Genetics 221 or consent. The anatomy and physiology of reproduction in farm animals. Mr. Kidder

226. Breeding of Farm Animals. II. 3 hr. PR: Genetics 221 or consent. The application of principles of quantitative population genetics to the improvement of farm animals. Mr. Mitchell

Graduate Division

303. Advanced Animal Nutrition. II. 3 hr. PR: A.H. 101 and Chem. 131 or 233. Chemistry of feeding stuffs and of the animal body, as well as of digestion and metabolism of food nutrients. Offered in 1959-60 and alternate years. Mr. Anderson and Mr. Horvath

320, 321, 322, 323. Special Topics. I, II, S. 1-4 hr. (1 hr. credit in special cases only.) Advanced study in such topics as vitamins, minerals, and internal secretions in relation to health, growth, reproduction, and newer studies in the field of animal nutrition and breeding. (For the Master's Degree, Special Topics ordinarily may count 2 to 4 hours; maximum credit, 6 hours.) Staff

350, 351, 352, 353. Seminar. I, II. 1 hr. Animal, poultry, and dairy husbandry. Staff

370. Methods of Animal Research. (With Dairy and Poultry Husbandry). I. 3 hr. Research methods used in animal nutrition and breeding. Offered in 1960-61 and alternate years. Messrs. Anderson, Patrick and Porterfield

380, 381, 382, 383. Research. I, II. 1-6 hr. per sem. For graduate students working on a problem in preparation of a thesis. Staff

NOTE: Students assigned to a 200 course for graduate credit will be required to prepare a semester paper on some special phase of the course in addition to the regular course work.

ANIMAL PATHOLOGY

102. Animal Pathology. I. 3 hr. Diseases of domestic animals, with special emphasis on common diseases. Mr. Dozsa

206. Parasites and Pathology. II. 3 hr. PR: Biol. 1 and 2 or equiv. Common parasites of farm animals, their control, and their effect upon the host. Mr. Olson

DAIRY HUSBANDRY

Professors Henderson and Porterfield; Associate Professors Thomas and Weese; Assistant Professors Ackerman and Mitchell.

Undergraduate Division

11. Dairy Production. I. 3 hr. Introductory. Breeds of dairy cattle, their selection, feeding, and management. Mr. Ackerman

12. Dairy Technology. II. 3 hr. Introductory. Composition and properties of milk and milk products; butterfat testing; manufacture of dairy products. Mr. Weese and Mr. Ackerman

101. Animal Nutrition. I. 3 hr. Digestion and metabolism of feed nutrients; nutrient requirements of farm animals; nutritive values of feeds and rations. Mr. Anderson

102. Ice Cream and Refrigeration. I. 3 hr. Manufacture of ice cream; principles of refrigeration involved in the manufacture and storage of dairy products. Offered in 1960-61 and alternate years. Mr. Weese

103. Market Milk. I. 3 hr. Market milk and the manufacture of dry and condensed milk. Offered in 1959-60 and alternate years. Mr. Weese

104. Butter and Cheese. II. 3 hr. Manufacture of butter and various types of cheese. Offered in 1959-60 and alternate years. Mr. Weese

107. Milk and Public Health. I. 2-3 hr. Food value of milk and its production and processing in relation to public health. Mr. Thomas

123. Judging Dairy Cattle. II. 2 hr. A laboratory course in the fundamentals of judging dairy cattle. Mr. Mitchell

124. Judging Dairy Products. II. 2 hr. A laboratory course in evaluating and judging dairy products. Mr. Weese

180, 181. Assigned Topics. I and II. 1-4 hr. per sem. For advanced dairy students who desire to pursue study along some particular phase of dairying. Staff

195. Seminar. II. 1 hr. Primarily for seniors. No credit for graduate students. Mr. Porterfield

204. Advanced Dairy Technology. II. Chemical and bacteriological methods used in the technical control of milk and milk products. Offered in 1960-61 and alternate years. Mr. Thomas

221. Dairy Cattle. I. 3 hr. History of breeds and families of registered dairy cattle. Organization and activities of breeding associations. Mr. Porterfield

222. Milk Production. II. 4 hr. Feeding and management of dairy cattle. Mr. Henderson

225. Reproduction of Farm Animals. II. 3 hr. PR: Genetics 221 or consent. The anatomy and physiology of reproduction in farm animals (not open to those having credit for A.H. 225). Mr. Kidder

226. Breeding of Farm Animals. II. 3 hr. PR: Genetics 221 or consent. The application of principles of quantitative population genetics to the improvement of farm animals (not open to those having credit for A.H. 226). Mr. Mitchell

Graduate Division

320, 321, 322, 323. Special Topics. I, II, S. 2-4 hr. Advanced study in such topics as vitamins, minerals, and internal secretions in relation to health, milk production, and new studies in the field of animal nutrition and breeding. (For the Master's Degree, Special Topics ordinarily may count for 2 to 4 hr., maximum credit, 6 hr.) Staff

330. Advanced Milk Production. II. 3 hr. PR: D.H. 101 or equiv. Advanced study of the feeding, breeding, and management of dairy cattle. Mr. Henderson and Mr. Ackerman

350, 351, 352, 353. Seminar. I, II. 1 hr. Dairy, poultry, and animal husbandry. Staffs

370. Methods of Animal Research (with Animal and Poultry Husbandry). I. 3 hr. Research methods used in animal nutrition and breeding. Offered in 1960-61 and alternate years. Messrs. Anderson, Patrick, and Porterfield

380, 381, 382, 383. Research. I, II. 1-6 hr. per sem. For graduate students working on problems in preparation of a thesis. Staff

BACTERIOLOGY

246. Dairy Bacteriology. I. 3 hr. See Bacteriology 246, page 106.

CHEMISTRY

218. Dairy Chemistry. II. 3 hr. See Agricultural Biochemistry 218, page 96.

HORTICULTURE

Professors Marsh, Westover, and Childs; Associate Professor Schubert; Assistant Professors Dye, Fortney, and Neal; Instructor Shumaker.

Undergraduate Division

1. Vegetable Production. II. 3 hr. The vegetable garden. Prerequisite to all courses in olericulture. Mr. Westover and Mr. Shumaker

2. Fruit Production. I. 3 hr. Tree fruits and small fruits. Mr. Childs

104. Plant Propagation. II. 3 hr. Plant propagation and nursery practice. Mr. Neal

115. Judging and Identification of Apple Varieties. I. 1 hr. Two laboratory periods first half of semester. Mr. Childs

116. Flower Judging. II. 1 hr. One laboratory period per week. Mr. Dye

117. Vegetable Identification and Judging. I. 1 hr. Identification and judging of the common vegetables. Laboratory course. Mr. Shumaker

140. Woody Plant Materials. II. 3 hr. Trees, shrubs, and vines. Their identification, culture, and use. Offered in 1960-61 and alternate years. Mr. Neal

141. Greenhouse Management. II. 3 hr. A practical study of greenhouse operations. Offered in 1960-61 and alternate years. Mr. Dye

151. Flower Arrangement. I. 3 hr. PR: Hort. 151 or consent of Instr. A basic course in flower arrangement to cover all occasions for the home and retail flower shop. Mr. Fortney

180, 181. Assigned Topics. I and II. 1-4 hr. per sem. Limit of 6 hr. credit. Staff

206. Small-Fruits Production. I. 3 hr. A practical and scientific study of standard cultural practices in the small-fruits plantation. Mr. Childs

208. Application of Sprays, Dusts, and Fumigants. II. 2 hr. PR: Entom. 202 or Plant Path. 103 and Hort. 1, 2, or 229 (1 lect., 1 lab.) Training in the use of machinery and materials in the application of fungicides, insecticides, hormones, and plant nutrients to horticultural crops. Development and interpretation of spray schedules. Mr. Marsh and Mr. Adams

212. Commercial Tree-Fruit Production. I. 3 hr. Latest methods in pruning, spraying, soil culture, and other production practices for fruit trees from the practical and scientific standpoint. Mr. Schubert

229. Landscape Design. I. 3 hr. (1 lec., 1 scheduled lab, 1 arranged lab.) A course in ornamental horticulture giving an appreciation of the basic principles of design and information pertaining to the use and care of ornamental plants around the home. Mr. Fortney

232. Commercial Vegetable Production. II. 2 hr. PR: Hort. 1. Current methods of commercial vegetable production, including equipment, soil and climatic adaptation, plant raising, soil culture, harvesting, grading, and packing. Mr. Westover

234. Laboratory Inspection Trip. II. 1 hr. PR or Conc: Hort. 232. A 3-day inspection trip in connection with Hort. 232. Mr. Westover

239. Advanced Landscape Design. II. 3 hr. PR: Hort. 140, 229, or permission of the Instr. Advanced studies in Landscape design. Mr. Fortney

Graduate Division

320, 321, 322, 323. Special Topics. I, II, S. 2-4 hr. (For the Master's Degree, Special Topics ordinarily may count for 2 to 4 hr.; max. credit, 6 hr.) Staff

380, 381, 382, 383. Research. I, II, S. 1-6 hr. per sem. (Max. credit, 6 hr.) Staff

PLANT PATHOLOGY, BACTERIOLOGY, AND ENTOMOLOGY

Professors Leach, Barnett, Dorsey, Lilly, Truf, and Wilson; Associate Professor Gallegly; Assistant Professors Adams, Elliott, and Kulman; Instructor Schultze.

BACTERIOLOGY

Undergraduate Division

141. General Bacteriology. I, II, S. 4 hr. (3 hr. for engineering students.) PR: Chem. 1, 2. Introductory, morphological, cultural, and physiological characteristics of bacteria; application of bacteriology to agriculture, home economics, sanitation, and health. Mr. Wilson and Mr. Schultze

180, 181. Assigned Topics. I, II, S. 1-4 hr. per sem. Staff

241. Fundamental Bacteriology. S. PR: Chem. 1, 2. Fundamental principles of bacteriology; the morphological, cultural and physiological characteristics of bacteria and related microorganisms. Similar to Bact. 141, but designed primarily to meet the requirements of biology teachers. Can be substituted for Bact. 141, but credit will not be given for both Bact. 141 and Bact 241. Mr. Wilson and Mr. Schultze

246. Dairy Bacteriology. I. 4 hr. Bact. 141 or 241. Microorganisms in market milk, in manufacture of butter, cheese, and fermented milk, and in milk hygiene; practice in preparation of media; making bacterial counts in milk. Offered in 1960-61 and alternate years. Mr. Schultze

248. Sanitary Bacteriology. I. 3 hr. PR: Bact. 141 or 241. Standard bacteriological methods used in routine examination of water sewage. Offered in 1959-60 and alternate years. Mr. Wilson

Graduate Division

314. Soil Microbiology. II. 4 hr. PR: 141 or 241, and organic chemistry. Occurrence and distribution of microorganisms in soils and their interrelationships. Their role in decomposition of organic matter and other transformations of soil constituents. Offered in 1960-61 and alternate years. Mr. Wilson

320, 321, 322, 323. Special Topics. I, II, S. 2-4 hr. (For Master's Degree, Special Topics ordinarily may count for 2 to 4 hr.; maximum credit, 6 hr.) Staff

380, 381, 382, 383. Research. I, II, S. 1-6 hr. per sem. Mr. Wilson and Mr. Schultze

ENTOMOLOGY

Undergraduate Division

152. Forest Entomology. II. 3 hr. PR: Forestry 112. Relationships between insects and the forest; recognition and control of important species. This course is primarily designed for forestry students. Mr. Kulman

180, 181. Assigned Topics. I, II. 1-4 hr. PR: Entom. 202 or equiv. Special studies in insect ecology, life-histories, macro- and micro-anatomy, taxonomy, physiology, and control methods. Mr. Dorsey and Mr. Kulman

200. General Entomology. I. 3 hr. PR: Biol. 2 or equiv. An introduction to the general biology of insects, their recognition and importance to human welfare. Does not carry graduate credit for majors in Entomology.
Mr. Dorsey and Mr. Kulman

202. Agricultural Entomology. II. 4 hr. PR: Biol. 1, 2. A course dealing with the basic aspects of insect life, emphasizing the study of economically important insects and their control. Designed to meet the needs of students in agriculture. Does not carry graduate credit for majors in Entomology. Mr. Dorsey

203. Economic Entomology. II. 3 hr. PR: Entom. 202. Evaluation of insect control problems; study of survey and control methods; equipment; insecticides. Offered in 1960-61 and alternate years. Staff

Graduate Division

320, 321, 322, 323. Special Topics. I, II, S. 2-6 hr. PR: Entom. 202, 370. Advanced study of entomological topics of special interest to the student. Staff

380, 381, 382, 383. Research. I, II, S. 1-6 hr. Staff

PLANT PATHOLOGY

Undergraduate Division

153. Forest Pathology. I. 4 hr. PR: Biol. 2, For. 112. Important diseases of forest and shade trees. Causes and methods of control. Mr. True

180, 181. Assigned Topics. I, II. 1-4 hr. per sem. Staff

201. General Plant Pathology. I. 4 hr. PR: Bact. 141 or 241. Nature and causes of plant diseases; methods of control. Mr. Leach and Mr. Elliott

202. Principles of Plant Pathology. II. 4 hr. PR: Bact. 141 or 241 and either Plant Path. 153, 201, or 203, or consent. Primarily for graduate students and seniors majoring in botany, biology, or agricultural science. Nature of diseases in plants with practice in laboratory methods. Offered in 1959-60 and alternate years. Mr. Leach, Mr. Gallegly, and Staff

203. Mycology. I. 4 hr. Lectures, field and laboratory studies of parasitic and saprophytic fungi. Mr. Barnett

204. Diseases of Fruit Crops. I. 2 hr. PR: Pl. Path. 201. The important diseases of commercial fruits. Causes and methods of control. Offered in 1960-61 and alternate years. Mr. Adams

205. Diseases of Ornamentals. II. 2 hr. PR: Pl. Path. 201 or 153. The important diseases of ornamentals. Causes and methods of control. Offered in 1959-60 and alternate years. Mr. Elliott

206. Diseases of Vegetable Crops. II. 2 hr. PR: Pl. Path. 201. The important diseases of potatoes and vegetable crops. Causes and methods of control. Offered in 1960-61 and in alternate years. Mr. Gallegly

207. Diseases of Field and Forage Crops. II. 2 hr. PR: Pl. Path. 201. The important diseases of cereals, legumes, and grasses. Causes and methods of control. Offered in 1960-61 and alternate years. Mr. Elliott

208. Application of Sprays, Dusts, and Fumigants. II. 2 hr. PR: Entom. 202 or Pl. Path. 201 and Hort. 1, 2, or 229, or its equiv. One lecture and one laboratory. Training in the use of machinery and materials in the application of fungicides, insecticides, herbicides, hormones, and plant nutritients to horticultural crops. Also the development and interpretation of spray schedules.
Mr. Adams and Mr. Marsh

Graduate Division

312. Pathological Anatomy. I. 3 hr. PR: Pl. Path. 153, 201, or Botany 213. Abnormal tissue changes in plants. Offered in 1960-61 and alternate years.
Mr. True

313. Insect Transmission of Plant Diseases. I. 3 hr. PR: Pl. Path. 153, 201, or Entom. 202. Role of insects in spread and development of plant disease. Offered in 1959-60 and alternate years. Mr. Leach

315. Advanced Forest Pathology. II. 3 hr. PR: Pl. Path. 203 and either Pl. Path. 153 or Pl. Path. 201. Principles, substance, and application of our knowledge of tree diseases and decays, especially as they may be related to forest management practices. Offered in 1959-60 and alternate years. Mr. True

320, 321, 322, 323. Special Topics. I, II, S. 2-4 hr. (For Master's Degree, Special Topics ordinarily may count for 2 to 4 hr.; maximum credit, 6 hr.) Staff

330. Physiology of the Fungi. II. 4 hr. PR: Organic chem, mycology, and bact., or consent of Instr. Physiological aspects of growth, reproduction, and parasitism of fungi, with emphasis on nutrition, environment, and other biotic factors. Mr. Barnett and Mr. Lilly

340. Taxonomy of the Fungi. I. 3 hr. PR: Pl. Path. 203. Collection and identification of fungi, with emphasis upon those of economic importance. Offered in 1960-61 and alternate years. Mr. Barnett

350, 351. Seminar. I, II. 1 hr. per sem. Mr. Leach and Staff

380, 381, 382, 383. Research. I, II, S. 1-6 hr. Staff

POULTRY HUSBANDRY

Professor Patrick; Associate Professor Hyre.

Undergraduate Division

1. Poultry Husbandry. II. 4 hr. (1 lab.) Introductory. Mr. Patrick and Mr. Hyre

103. Poultry Feeding and Management. II. 3 hr. Factors in poultry production, feeding, and management as related to scientific investigations. Mr. Patrick

105. Poultry Judging. I. 2 hr. (2 labs.) Practice in selection of birds for both standard and production qualities. Mr. Hyre

106. Preparation and Grading of Eggs and Poultry for Market. I. 2 hr. (1 lab.) Latest methods in killing, dressing, and grading of poultry. Grading, storing, and processing eggs for market. Offered in 1959-60 and alternate years. Mr. Hyre

108, 109, 110. Poultry Plant Experience. I, II, S. 1 hr. (3-hr. lab.) Experience in operating a poultry breeding farm, including trapnesting, incubation, and pedigreeing. A report will be required. Staff

180, 181. Assigned Topics. I, II. 1-4 hr. per sem. Staff

195. Senior Seminar. II. 1 hr. Primarily for seniors. No credit for graduate students. Staff

201. Advanced Poultry Production. I. 3 hr. P.H. 1 or equiv. for all students; P.H. 103 or A.H. 101 for graduate credit. Special phases of broiler and egg production, disease control, labor saving studies, recent designs in building and heating equipment. Mr. Patrick and Mr. Hyre

212. Breeding and Incubation: Principles and Practices. I. 3 hr. (1 lab.) PR: Genetics 221 or consent. Study of methods available for improving and reproducing meat and egg quality. Offered in 1960-61 and alternate years. Mr. Hyre

213. Turkey Production. I. 3 hr. (1 lab.) PR: P.H. 1 or equiv. for all students; P.H. 103 or A.H. 101 for graduate credit. Current methods in turkey production, including varieties, selective breeding, nutrition, and marketing. Offered in 1959-60 and alternate years. Mr. Patrick

214. Biological Radionuclide Methods. I, II. 3 hr. PR: P.H. 1, Chem. 1, 2, 131, or consent. Using the chick and radionuclides as applied to chick biological methods. Radionuclide methods and isotope handling as needed by students interested in research. Mr. Patrick

Graduate Division

320, 321, 322, 323. Special Topics. I, II, S. 1-4 hr. (1 hr. credit in special cases only). Advanced study in such topics as vitamins, minerals, and internal secretions in relation to health, growth, egg production, reproduction, and newer studies in

the field of animal nutrition and breeding. (For the Master's Degree, Special Topics ordinarily may count 2 to 4 hr.; max. credit, 6 hr.) Staff

350, 351, 352, 353. Seminar. I, II. 1 hr. Poultry, Animal, and Dairy Husbandry. Staff

370. Methods of Animal Research. I, II. 3 hr. (With A.H. and D.H.) Research methods used in animal nutrition and breeding. Offered in 1960-61 and alternate years. Mr. Anderson, Mr. Patrick, and Dairy Staff

380, 381, 382, 383. Research. I, II. 1-6 hr. per sem. For graduate students working on a problem in preparation for a thesis. Staff

NOTE: Students assigned to a 200 course for graduate credit will be required to prepare a semester paper on some special phase of the course in addition to the regular course work.

Division of Forestry

GENERAL INFORMATION

Organization and Purpose

In its Division of Forestry, West Virginia University offers four curricula of four years each, all leading to the degree of Bachelor of Science in Forestry. A student may major in forest management, wildlife management, wood technology, or wood industry.

The field of forestry is a broad one. Those who enter it must receive an education of a breadth equal to that of the profession which they expect to make their life work. The professional forester's work includes such diversified activities as timber production, logging, surveying, timber estimating, park management, forest protection, forest-stand improvement, flood control, watershed protection, soil erosion control, submarginal land development, restoration of game, forest-range management, stream development, lumber dry-kiln operation, plywood and furniture manufacture, timber preservation, and construction of public camps and summer home sites.

The wide scope of the modern field of forestry demands a thorough basic training in the professional forester. This accounts for the large number of required courses in the professional forestry curricula. If a forester wishes to specialize in any one branch of the field, graduate work is needed.

Regardless of the major selected, the curricula include a two years' broad foundational study of the natural and social sciences basic to the field of forestry. This is followed in the junior and senior years by a more detailed study of forestry principles and techniques. Many of the courses in the curricula provide for field laboratories, enabling the student to see first-hand application of the principles presented in the classroom and to experiment with the various techniques he is learning.

In addition to the forest work which forms a part of the regular courses on the main campus at Morgantown and the Forestry Camp described on page 110, the student is expected to devote the summer after his junior year to employment with a forest-using agency or private industry. This gives him further experience which is valuable in connection with his fourth-year studies, as well as in obtaining permanent employment after graduation.

Many opportunities for summer employment are arranged through the Division of Forestry with the United States Forest Service and with private forest industries which are members of the National Lumber Manufacturers Association. The remuneration for such temporary undergraduate employment varies from about $175 to $250 per month.

Facilities for Instruction

The Division of Forestry of West Virginia University is one of twenty-seven forestry schools in the country which are fully accredited by the Society of American Foresters. Situated in Morgantown, it is favorably located in relation to forests available for educational and research use.

Coopers Rock State Forest, an area of 13,000 acres fronting on Cheat Lake, is less than ten miles from the main campus. By agreement between the University and the Conservation Commission of West Virginia, an 8,000-acre part of this forest has been set aside as the West Virginia University Forest Division of Coopers Rock State Forest. This area is managed by the Division of Forestry for research and educational purposes. The Monongahela National Forest lies within forty-five miles of Morgantown. The University Farm Woods, 100 acres bearing mature timber, is within two miles. Recent acquisition by the University of the 500-acre Tygart Valley Forest at Dailey has increased the educational and research facilities of the Division. These forests are utilized by forestry students for study during their four years of training.

During 1951, an agreement was completed between West Virginia University and the Island Creek Coal Company. This agreement made the 3,000-acre Island Creek Experimental Forest available for research in applied forestry. The Division of Forestry maintains a resident forester at Holden who is in charge of the research forest in nearby Mingo County. Methods of forest production on a commercial basis, suited to the forest types and topography of southern West Virginia, are being studied. The experimental work is open to inspection by forestry students.

A lumber dry kiln, portable sawmill, and experimental wood treating plant have recently been acquired by the Division of Forestry.

The dry kiln is of compartment type, cross circulating, steam heated, with automatic self-recording temperature and humidity controls. It has a capacity of approximately five thousand board feet of lumber per charge, and provides properly kiln-dried lumber for University use. It provides for student experience in dry kiln operation.

The portable sawmill is of standard type, and may be adapted to permanent, portable, or mobile use. It is driven by a 75-horsepower diesel engine. A truck-tractor and semi-trailer are used in transporting the mill and in hauling logs and lumber. The unit is used for training in mill installation, adjustment, and operation. Students participate in logging and sawmilling operations conducted under conditions similar to ordinary small industrial operations.

The experimental wood-treating plant is outstanding in its facilities for duplicating any of the commercial methods of pressure-treating wood. A recording instrument keeps a time, pressure, vacuum, and temperature record of each treating operation. In addition, indicating vacuum pressure and temperature gauges are installed, including a mercury-vacuum gauge. The equipment was designed especially for West Virginia University, to be used in laboratory instruction and research.

The facilities of the Division of Forestry also include a wood working shop, plywood testing machine, and experimental plywood hot presses. A complete collection of samples of commercial woods of the United States is maintained for study.

The wood technology laboratory is equipped with microscopes, a microtome for preparing wood sections used in identification, wood moisture meters, and a portable precision potentiometer. An experimental electrically-heated condenser-type dry kiln with automatic temperature and humidity controls is used for practice, in addition to the five thousand-board foot steam-heated dry kiln.

The foresty library has been developed primarily for student use. It contains more than 7,000 catalogued books and bulletins covering the field of forestry. All periodicals of interest to the forester may be readily found. Student organizations are decorating the library with pictures and trophies, creating interesting and pleasant surroundings for study.

Camp Wood

The Forestry Camp, held each summer for students who have completed their sophomore year of the professional curricula, is situated near Alvon about 12 miles north of White Sulphur Springs, on the southern end of the Monongahela National Forest in Greenbrier County. This location offers a great variety of forest types, conditions, activities, and industries.

The program of instruction provides training and practical experience in land surveying, timber estimating, forest management, wildlife management, and wood utilization. A logging operation is carried out by the students on the Meadow Creek Management Area. This is a tract of mature oak and pine timber which has been reserved by the United States Forest Service for this purpose. A considerable area of

timber near the camp has been reserved by private owners for mensuration studies. The camp program culminates in a one-week trip into the southern pine region, where silvicultural operations and wood-using industries are studied.

The cost of tuition at camp is $40 for resident* and $80 for nonresident students.* Food and lodging for the nine-week period at Camp Wood costs $90 plus tax. An additional $10 is collected for lodging on the southern trip. Other expenses for scheduled trips from camp usually total about $25.

The West Virginia University Forestry Club

Regardless of what branch of forestry the student enters after graduation, he finds it necessary to direct the work of crews of skilled and semi-skilled men. The ability to lead men in effective work is, therefore, of first importance to the forester. Leadership training is provided through the Forestry Club (W.V.U. Foresters). This organization, although completely managed and financed by the students, forms a definite part of every forester's work at West Virginia University.

Each man has specific duties and responsibilities in the operation of the Club. The results of these activities, together with scholastic attainments, are considered in the placement of graduates.

Club activities include dinner gatherings with invited speakers, meetings where various phases of the forestry industry are discussed, and publication of the *Cruiser*, the foresters' yearbook. The club also sponsors athletic teams which participate in intramural contests and offers a variety of social affairs. Annual dues are eight dollars, payable at time of registration.

At the time of the Forester's Annual Banquet, an axe is awarded by the faculty to the senior student who has demonstrated his proficiency as the best all-around forester of the Club.

The Society of American Foresters

The S.A.F. is a professional society which accepts as members only those persons actually engaged in technical forestry work or studying in preparation for such work. Its objects are "to represent, advance, and protect the interests and standards of the profession of forestry, to provide a medium for exchange of professional thought, and to promote the science, practice, and standards of forestry in America."

The Society publishes the *Journal of Forestry* and *Forest Science*. The scope of its program and various divisions within the society are of interest to all who are connected with the forestry profession. Juniors and seniors in the Division of Forestry may join the Society as "student members." They receive the Journal at a special rate, take part in meetings of the West Virginia Chapter, and have all other privileges of regular membership, except that of voting. Upon graduating they may become regular members.

The West Virginia Chapter of the Allegheny Section, S.A.F., was organized in 1945 for the purpose of unifying the professional foresters working in the State. The annual meeting of the Chapter is arranged so that student members may attend as a part of their school program.

REQUIREMENTS FOR THE DEGREE

The Division of Forestry offers four curricula leading to the degree of Bachelor of Science in Forestry. The first year of work is the same in all four curricula except that students majoring in wood technology must take Mathematics 3, College Algebra, during the first semester. In order to take Mathematics 3, the enrolling freshman must offer 1½ units of algebra in his entrance credits, or take Mathematics 2 as a prerequisite.

Courses to be taken during the first and second semesters of work by freshmen in all curricula are listed below. Requirements for the second, third, and fourth years in the four specialized curricula follow.

*Plus $4.00 per semester hour new Registration Fee, imposed by law, effective June 1, 1959.

FIRST YEAR, ALL CURRICULA

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Biol. 1—General	4	Biol. 2—General	4
Chem. 1—General	4	Chem. 2—General	4
English 1—Composition	3	English 2—Composition	3
For. 1—Profession*	1	For. 2—Profession*	1
For. 3—Convocation	0	For. 4—Convocation	0
Math. 2 (3)—Algebra	3	Math. 4—Plane Trigonometry	3
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2
Phys. Educ. 1—General Program	1	Phys. Educ. 2—General Program	1
	18		18

*Freshmen only.

The curricula for the last three years are shown separately as follows. In each curriculum the student will have an opportunity to take elective courses that will complete a well-rounded course of study.

FOREST MANAGEMENT

The forest management curriculum offers a strong basic course in forestry leading particularly to employment in the management of forest land. It is designed to train the student for a professional forestry career in either public or private forestry.

Graduates are prepared to hold positions with the various state forestry and conservation departments, the U. S. Forest Service, the Forestry Division of the U. S. Indian Service, the Soil Conservation Service, and the other federal and state agencies employing professional foresters. They may also be employed by private forest land owners—both corporate and individual—or may enter business as consulting foresters. This curriculum provides a good background for graduate work in all phases of forest production management.

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Agron. 10—Forest Soils	4	Bot. 68—Dendrology	3
Bot. 61—Systematic	2	Bot. 71—Plant Physiol.	2
Bot. 67—Dendrology	3	C.E. 6—Topographic Mapping	2
C.E. 5—Land Surveying	4	English 13—Expository Writing	2
Econ. 1 (or Agr. Econ. 102)—Prin.	3	For. 6—Convocation	0
For. 5—Convocation	0	For. 11—Silvics	3
Mil. or Air Sci. 3	2	For. 21—Mensuration	4
		Mil. or Air Sci. 4	2
	18		18

SUMMER PRECEDING THIRD YEAR

10 Weeks—10 Hours Credit

For. 106—Forest Surveying and Mensuration Field Practice	5
For. 107—Forest Management, Utilization, and Wildlife Practices	5
	10

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
For. 112—Silvicultural Systems	3	For. 113—Seeding and Planting	3
For. 131—Wood Identification	3	For. 114—Forest Economics	3
For. 151—Protection	2	For. 125—Policy and Administration	3
Physics 1—Introductory	4	For. 133—Lumbering	3
Electives	5	Electives	5
	17		17

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
For. 116—Regional Silviculture	2	Entomol. 152—Forest Entomology	3
For. 123—Management	4	For. 134—Forest Products	3
For. 124—Forest Finance	3	For. 141—Wildlife Management	3
For. 126—Forest Measurement by Aerial Photographs	2	Electives	7
Pl. Path. 153—Forest Pathology	4		
Electives	3		
	18		16

WILDLIFE AND FISH MANAGEMENT

The wildlife and fish management curriculum is designed to give basic undergraduate training in wildlife and fisheries biology. Students who elect this curriculum will satisfy the requirement for graduation by completing successfully 150 credit hours, including all the required courses listed below, and elective courses in botany, zoology, bacteriology, and other related fields. Those completing the curriculum are granted the degree of Bachelor of Science in Forestry.

Many wildlife and fisheries biology positions require the Master's Degree, and majors in this curriculum are encouraged to enroll for graduate work in other institutions. Graduates in wildlife management will, however, meet all requirements for taking the U. S. Civil Service examination for biologist, and will ordinarily meet all requirements for the entering examination in general forestry.

Students in wildlife management will be advised to include, among their electives, courses in botany, zoology, and other related fields. Students who expect to specialize in fish management will take Zoology. 251, Invertebrate Zoology; Zool, 263, Ichthyology; Zool. 264, Fisheries Biology, plus nine hours of elective courses.

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Agron. 10—Forest Soils	4	Bot. 68—Dendrology	3
Bot. 61—Systematic	2	Bot. 71—Plant Physiol.	2
Bot. 67—Dendrology	3	C.E. 6—Topographic Mapping	2
C.E. 5—Land Surveying	4	For. 6—Convocation	0
Econ. 1 (or Agr. Econ. 102)—Prin.	3	English 13—Expository Writing	2
For. 5—Convocation	0	For. 11—Silvics	3
Mil. or Air Sci. 3	2	For. 21—Mensuration	4
		Mil. or Air Sci. 4	2
	18		18

SUMMER PRECEDING THIRD YEAR

For. 106—Forest Surveying and Mensuration Field Practice	5
For. 107—Forest Management, Utilization, and Wildlife Practices	5
	10

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
For. 112—Silvicultural Systems	3	For. 113—Seeding and Planting	3
For. 131—Wood Identification	3	For. 114—Forest Economics	3
For. 151—Production	2	For. 125—Policy and Administration	3
Physics 1—Introductory	4	For. 144—Forest Zoology	3
Electives	5	Electives	5
	17		17

FOURTH YEAR WILDLIFE AND FISH MANAGEMENT

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
For. 123—Management	4	Entomol. 152—Forest Entomology	3
Pl. Path. 153—Forest Pathology	4	For. 134—Forest Products	3
Electives	9	For. 141—Wildlife Management	3
		For. 145—Life Histories of Game Animals	3
		Electives	5
	17		17

WOOD TECHNOLOGY

The curriculum in wood technology is intended to prepare students to pursue graduate work in the technical phases of wood use or to enter directly into positions dealing with the conversions of forest crops into useful products. Such positions may be either governmental or industrial, with both groups further divided into various degrees of administrative, research, or developmental effort. Students electing to enter the field of wood technology should demonstrate a marked facility in mathematics, physics, and chemistry, since these basic sciences form the foundation for a large part of the knowledge involved in the properties and processing of wood.

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Agron. 10—Forest Soils	4	Bot. 68—Dendrology	3
Bot. 67—Dendrology	3	Bot. 71—Plant Physiology	2
C.E. 5—Land Surveying	4	C.E. 6—Topograhpic Mapping	2
Econ. 1 (or Agr. Econ 102)—Prin.	3	English 13—Expository Writing	2
For. 5—Convocation	0	For. 6—Convocation	0
Math. 5—Analytical Geom.	4	For. 11—Silvics	3
Mil. or Air Sci. 3	2	For. 21—Mensuration	4
		Mil. or Air Sci. 4	2
	20		18

SUMMER PRECEDING THIRD YEAR

10 Weeks—10 Hours Credit

For. 106—Forest Surveying and Mensuration Field Practice	5
For. 107—Forest Management, Utilization, and Wildlife Practices	5
	10

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 131—Organic	4	For. 114—Forest Products	3
For. 112—Silvicultural Systems	3	Math. 108—Integral Calc.	4
For. 131—Wood Identification	3	M.E. 20—Mechanical Drawing	3
Math. 107—Differential Calc.	4	Physics 112—General	5
Physics 111—General	5		
	19		15

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 105—Qual. Analysis	4	For. 134—Forest Products	3
For. 123—Management	4	For. 135—Seasoning and Pres.	4
For. 132—Properties of Wood	3	For. 133—Lumbering	3
Pl. Path. 153—Forest Pathology	4	Mech. 102—Mechanics of Materials	4
Mech. 101—Statics	3		
	18		14

WOOD INDUSTRY

The four-year Wood Industry curriculum leads to a degree of Bachelor of Science in Forestry and is designed primarily to develop qualified foresters for work with wood-using industries. The wood-using industry that includes basic lumber products, lumber and veneer products, paper and allied products ranks fourth in the nation as to number of wage earners employed.

The first and second years of study are devoted to those basic preparatory subjects that are essential to the more technical courses that follow. The third and fourth years of study allow the student to obtain theory and practice in the more technical phases of his forestry education. Courses in business law and industrial management are included. These provide training in the fundamentals of business practice essential to the forester who contributes to the development of wood industries.

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Agron. 10—Forest Soils	4	Acctng. 1—Prin. of Accounting	3
Botany 67—Dendrology	3	For. 6—Convocation	0
C.E. 5—Land Surveying	4	Bot. 68—Dendrology	3
Econ. 1 (or Agr. Econ. 102)—Prin.	3	For. 11—Silvics	3
English 13—Expository Writing	2	For. 21—Mensuration	4
For. 5—Convocation	0	For. 133—Lumbering	3
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
	18		18

SUMMER PRECEDING THIRD YEAR

For. 106—Forest Surveying and Mensuration Field Practice	5
For. 107—Forest Management, Utilization, and Wildlife Practices	5
	10

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Bus. Ad. 111—Business Law	3	Bus. Ad. 112—Business Law	3
For. 112—Silvicultural Systems	3	Entomol. 152—Forest Entomology	3
For. 131—Wood Identification	3	For. 114—Forest Economics	3
For. 151—Forest Protection	2	For. 134—Forest Products	3
Physics 1—Introductory	4	Electives	4
Electives	3		
	18		16

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
For. 123—Management	4	For. 135—Seasoning and Preserving	4
For. 124—Forest Finance	3	For. 137—Grading Wood Products	3
For. 132—Properties of Wood	3	For. 138—Advanced Lumbering	3
Management 111—Ind. Management	3	For. 139—Marketing Forest Products	3
Pl. Path. 153—Forest Pathology	4	Electives	4
	17		17

COURSES OF INSTRUCTION IN FORESTRY

1, 2. The Profession of Forestry. I and II. 1 hr. per sem. (Required only for students who rank as freshmen in the Division of Forestry.) Survey of the profession of forestry and the opportunities available to foresters. Mr. Percival and Staff

3, 4, 5, 6. Forestry Convocation. I and II. No credit. All students are expected to attend the weekly convocation. Attendance is required of students during their

first four semesters in the Division of Forestry. Speakers and timely topics in forestry and allied fields are presented. Staff

11. Silvics. II. 2 hr. PR or conc: Bot. 68. Forest and environment factors; site and type characteristics. Mr. Tryon

21. Forest Mensuration. II. 4 hr. PR: Math. 2, 4. Measurements of forest products, trees, and stands; timber estimating; introduction to growth and yield. Mr. Christensen and Mr. Brown

46, 146. Ornithology. II. 2 hr. PR: Biol. 1 and 2, or consent of instructor. Identification, distribution, and ecology of birds (particularly of forest lands). Mr. Brooks

106. Forest Surveying and Mensuration Field Practices. S. 5 hr. PR: Bot. 67, C.E. 5, For. 21. The application of surveying and timber estimation methods to forestry practice with emphasis on field problems. Mr. Christensen and Mr. Koch

107. Forest Management, Utilization and Wildlife Practices. S. 5 hr. PR: For. 106. Study of forest management, utilization, and wildlife problems. Trip to observe forest management and utilization in the Southern Pine Region. Mr. Carvell and Mr. Jackson

112. Silvicultural Systems. I. 3 hr. PR: For. 11. Principles of regeneration cuttings, intermediate cuttings, and cultural operations, with their application to forest stands. Mr. Carvell and Mr. Brown

113. Seeding and Planting. II. 3 hr. PR: For. 11. Seeding and planting; nursery practice; phases of artificial regeneration. Mr. Tryon

114. Principles of Forest Economics. II. 3 hr. PR: Econ. 1 or Agr. Econ. 102. The economics of production, distribution, and use of forest goods and services. Emphasis is on the use of analytical methods and techniques in dealing with forest economic problems. Mr. Christensen

116. Regional Silviculture. I. 2 hr. PR: For. 11, PR or Conc: For. 112. Major forest types of the United States; their composition, management, problems, and silvicultural treatment. Mr. Carvell

122. Forest Mensuration. II. 3 hr. PR: For. 21. The measurement of growth and yield; statistical methods applied to forest measurement problems. Mr. Christensen

123. Forest Management. I. 4 hr. PR: Summer Camp, PR or Conc: For. 112. The principles of sustained yield forest management. Organization of the forest area, selection of management objectives, application of silvicultural systems, and regulation of the cut. The forest management plan. Mr. Goodspeed

124. Forest Finance. I. 3 hr. PR: For. 114. Cost and income items in producing and exploiting forest crops; appraisal of stumpage and damages. Mr. Goodspeed

125. Forest Policy and Administration. II. 3 hr. (Upperclassmen only). Forest policy in the United States; important federal and state laws; administration of public and private forests. Mr. Percival

126. Forest Measurement by Aerial Photographs. I, II. 2 hr. PR: For. 21. Elements of photogrammetry; preparation of maps; interpretation of forest types and timber volumes from aerial photographs. Mr. Carvell

127. Forest Management Plans. II. 2 hr. PR: For. 123. Analyses of forest management plans. Construction of a sustained yield timber management plan for a specific forest tract. Mr. Goodspeed

131. Wood Identification. I. 3 hr. PR: Bot. 67, 68. Identification of commercial timbers of U. S.; basic properties and uses of different woods. Mr. Koch

132. Properties of Wood. I. 3 hr. PR: For. 131. Physical and mechanical properties of wood; testing, machining, gluing, finishing, and special processing of wood. Mr. Koch

133. Lumbering. II. 3 hr. PR or Conc: For. 21. Logging practices and lumber manufacture, logging and mill equipment, important factors affecting lumber grades. Mr. Jackson

134. Forest Products. II. 3 hr. PR or Conc: For. 131. The production and uses of forest products other than lumber and trees. Mr. Reid

135. Seasoning and Preservation. II. 4 hr. PR: For. 131. Purposes, effects, and methods of seasoning and preserving wood. Mr. Reid

137. Grading Wood Products. II. 3 hr. PR: For. 21, 131. Inspection methods and application of standard grading rules to forest products, with emphasis on the inspection of hardwood and southern pine lumber. Mr. Jackson

138. Advanced Lumbering. II. 3 hr. PR: For. 133. Organization of the business; operation of logging equipment, records, and cost control. Mr. Jackson

139. Marketing Forest Products. II. 3 hr. PR: For. 134. Methods of marketing lumber and other forest products in domestic and foreign trade. Mr. Reid

140. West Virginia's Natural Resources. II. 3 hr. (Primarily for students enrolled in the College of Education, but open to other Upper Division students.) A survey of policies and practices in development and use of soil, water, forest, wildlife, mineral, and human resources in West Virginia.
Mr. Brooks and Mr. Smith

141. Wildlife Management. II. 3 hr. PR: Bot. 61 and Biol. 2. Basic principles of handling wildlife as a forest crop, including population dynamics, ecological relationships, social behavior, habitat manipulation, and game administration.
Mr. Smith

142. Recreational Developments. II. 2 hr. PR: C.E. 6, Summer Camp. Needs of the active and passive recreationist and means of supplying facilities for meeting these needs in public forests. Mr. Brooks

143. The Forest Range. II. 2 hr. PR: C.E. 5. A survey of basic range management techniques and practices on forest lands, with consideration of range mapping and important forage plants. Mr. Brooks

144. Forest Zoology. II. 3 hr. PR: Biol. 2 or Zool. 2. The relationships of mammals, reptiles, amphibians, and fish to the forest, with emphasis on the ecology and taxonomy of these groups. Mr. Brooks

145. Life Histories of Game Animals. II. 3 hr. PR: Biol. 2 or Zool. 2. Field and laboratory studies of game-bird and game-mammal life histories, with special reference to management of populations of these species. Mr. Brooks

151. Forest Protection. I. 2 hr. (Upperclassmen only). Preventative action, preparation activities, and control of forest fires. Mr. Percival

170, 171, 172, 173. Forestry Problems. I, II. 1 hr. ea. For seniors only. (4 hr. maximum). Mr. Carvell

183. Farm Woods Management. II. 3 hr. (Professional forestry students may not take this course for credit.) Characteristics of forest trees; management of farm woods for timber, wildlife, watershed protection, and recreation; measuring and marketing farm timber; plantation establishment. Mr. Smith

Division of Home Economics

The Division of Home Economics is located in the north end of Oglebay Hall. Here may be found offices and a small departmental library, and in addition, classrooms and laboratories equipped for the teaching of related arts, textiles and clothing, and foods and nutrition. Adjacent to the foods laboratories is a family-service unit consisting of a kitchen, dining room, and reception room. Additional laboratories near Oglebay Hall include University High School, two Home Management Houses, Nursery School, Cafeteria, and Textiles Laboratory.

Offerings in the division are designed to meet a wide variety of educational needs. One of the first aims is to help the student understand herself and her

potentialities and to encourage her to assume progressively more and more responsibility. She will also be given school and community laboratory experience, under guidance, to help her develop judgment and confidence in meeting situations.

To assist the student in setting goals and in planning experience which will help her make progress toward these goals, a special advisory system has been set up. Each student has a faculty adviser who counsels the student as to the courses and assists in solving problems directly or indirectly affecting her progress in the University.

PLAN OF WORK

Work of the first two years is largely cultural, and includes courses in written and spoken English, literature, and natural and social sciences. In addition, basic work in four areas—foods, clothing, art, and management—acquaints the student with the field of home economics.

During the last two years the student is given the opportunity to specialize in one of several vocations. Special courses have been arranged for the student who wishes to stay in college for only two years, and whose main interest is to prepare for homemaking. She may substitute homemaking courses for those courses required of degree candidates during the first two years.

VOCATIONS FOR HOME ECONOMISTS

West Virginia graduates are now teaching homemaking at junior high school, senior high school, and college levels; others are supervising the teaching of homemaking. Some may be found serving as home-demonstration agents, girls club leaders, or commercial demonstrators. A considerable number are engaged in institutional work as hospital dietitians or as managers of tea rooms, cafeterias, or college dining halls. Others are engaged in scientific research or in allied work as laboratory technicians.

Social service, through either private or government agencies, has claimed the interest of some. Nursery schools also have turned to West Virginia home economics graduates for supervisors. Department stores have offered a variety of interesting jobs in selling, interior decoration, and other phases of retailing. One or two graduates with a flair for writing have found work on women's magazines. New fields are constantly opening up, so that the person trained in home economics has an ever-widening choice of vocations.

The division endeavors to keep in touch with agencies which employ home economics graduates and to assist graduates in finding employment.

REQUIREMENTS FOR DEGREES

The Division of Home Economics offers courses leading to the granting of a Bachelor of Science degree in Home Economics and a Bachelor of Arts degree with a major in Home Economics.

BACHELOR OF SCIENCE IN HOME ECONOMICS

The degree of Bachelor of Science in Home Economics will be conferred upon any student who satisfies the entrance requirements and offers 128 hours of college credit and the required grade points, including the courses listed below:

General: English rhetoric, literature, and speech (not more than 3 hr. of speech), 12 hr.; chemistry or physical science, 8 hr.; history, psychology, social science, or economics (with work in at least two of these fields), 9 hr.; biological science, 8 hr.; physical education, 4 hr.; TOTAL: 41 hours. Humanities I and II may be substituted for History I and II.

Home Economics: Foods and nutrition, 6 hr.; management and family life, 7 hr.; textiles and clothing, 5 hr.; applied art, 4 hr.; child development, 3 hr.; electives in home economics, 15 hr.; TOTAL: 40 hours.

General Electives: TOTAL: 47 hours.

Fifty-eight (58) hours, to include Home Management Laboratory (H.E. 234) must be selected from upper-division courses. A grand total of 128 hours is required for the Bachelor of Science Degree in Home Economics.

Sufficient electives are allowed to permit the student to satisfy the requirements for a first-class high-school certificate to teach in West Virginia, or to fulfill preparatory requirements for apprenticeship, internship, or similar vocational experiences in a variety of fields such as institution management, hospital dietetics, food and textile research, retailing, extension work, and government services.

It is suggested that students carry a maximum of 16 hours while living in the Home Management House, or while doing student teaching.

A student who is working for room and board may not carry more than 14 hours until she has demonstrated that she is able to maintain a "C" average.

A.B. DEGREE WITH MAJOR IN HOME ECONOMICS

Students who wish to offer home economics as a major in the College of Arts and Sciences are referred to the information concerning the Bachelor of Arts degree with a major in home economics in the *Announcements of the College of Arts and Sciences* or in the Arts and Sciences section of the *University Catalog.*

Classification of Students

To be classified as a regular freshman, a student must fulfill all entrance requirements. To be classified as a sophomore, she must have completed 25 hours; as a junior, 58 hours; as a senior, 92 hours.

SUGGESTED CURRICULUM FOR FIRST TWO YEARS

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	English 3, 4 or 5	3	Speech 3, 6, or 11	3
Chem. 1*	4	Chem. 2*	4	Home Ec. 15	4	Zool. 151	4
(or)		(or)		Home Ec. 12	3	Home Ec. 23	2
Phys. Sci. 1		Phys. Sci. 2	4	Biol. 1	4	Home Ec. 114	2
(or)		History 2	3	Econ. or Sociol.	3	Phys. Ed.	1
History 1	3	(or)		Phys. Ed.	1	Econ. or Sociol.	3
(or)		Humanities 2	4				
Humanities 1	4	Home Ec. 2	2				
Home Ec. 1	2	Home Ec. 3	2				
Home Ec. 4	2	Phys. Ed.	1				
Phys. Ed.	1						

*Prospective dietitians should elect Chem. 1 and 2.

THE CURRICULUM FOR TEACHERS

Students who wish to obtain a high-school certificate to teach home economics must meet requirements of the State Board of Education and of the College of Education. Recommendation for certification is made by the Division of Home Economics to the Dean of the College of Education. For requirements, see the bulletin: *Teacher Selection, Guidance, Training and Certification.*

West Virginia University has been approved by the State Department of Education and the U. S. Office of Education to train teachers of vocational homemaking.

All students who meet requirements for vocational certificates in home economics as set forth in the bulletin, *Teacher Selection, Guidance, Training and Certification,* and who maintain an average of "C" or better in Education 163 or 124 will be recommended for vocational certificates.

Students transferring from other institutions should do so not later than the junior year. A minimum residence of the entire senior year is required, and students with irregular schedules will require a longer period of time.

MAJOR CURRICULA IN HOME ECONOMICS

The Teaching Major

(See *Teacher Training Bulletin* for course requirements.)

Other Majors

Advisers will help students select courses which will prepare them for vocations in Nutrition and Dietetics, Textiles, Clothing and Retailing, Extension Service. Utility Companies, or for pursuing work at graduate levels.

Two-year Courses in Home Economics

The Division of Home Economics offers a two-year course designed to meet the needs of those students who do not wish to spend four years working toward a degree, but who desire some college training. The two-year curriculum is designed to give students some information, appreciation, and understanding to help them function successfully as homemakers and citizens. The course as planned is broad and flexible and permits a wide choice of electives to meet individual needs.

The entrance requirements for the two courses are the same as for the regular four-year course, as given in the *University Catalog*. Students who complete, satisfactorily, the 64 semester hours, including the basic requirements and at least 22 hours in Home Economics will be granted a Certificate in Home Economics.

A student enrolled in the two-year course may transfer appropriate credit hours to a four-year course leading to a degree, provided a grade-point average of 2.5 or better has been maintained. A student pursuing the four-year curriculum may transfer to the two-year curriculum provided the transfer is made prior to or immediately following completion of two years of study. In either case, the student must meet the requirements of the curriculum to which transfer is made.

THE TWO-YEAR CURRICULUM

English 1 and 2 or Communications 1 and 2	6 hr.
Social Science,* or Physical Science, or Biological Science	8 hr.
Social Science	6 hr.
Chosen from the following: Pol. Sci. Economics Sociology History Psychology	
Home Economics	22 hr.
At least one course from each of the following areas: Related Art (3 and 23 suggested) Clothing and Textiles (2 or 12 and 17 and 102) Child Development Foods and Nutrition (1 and 105 or 15) Management (to include 114)	
Physical Education or Health Education	2 hr.
Electives from any field for which student can qualify	20 hr.
	64

*General course in Social Science.

GRADUATE DEGREES IN HOME ECONOMICS

MASTER'S DEGREE IN HOME ECONOMICS EDUCATION

Candidates for the Master's Degree in Home Economics Education must have fulfilled the requirements for a B.S.H.E. Degree at West Virginia University or at an approved college offering an equivalent degree. In addition the candidate must have completed a minimum of 14 hours in Education and 36 hours in Home Economics as an undergraduate.

The required curriculum leading to the Degree of Master of Science in Home Economics Education is as follows:

Option A or B		Option C	
Education	10-20 hr.	Education	10-20 hr.
Home Economics (Problem or Thesis required)	10-20 hr.	Home Economics	10-20 hr.
Tributary Fields	0-10 hr.	A minimum of work outside the field of Education	10 hr.
Total	30 hr.	Total	36 hr.

Those electing to obtain the Master's Degree by Option C shall be required to take comprehensive written examinations. These examinations shall be furnished by:

1. Each of two or three staff members in the major area. Each will require approximately two hours to answer (a total of 4-6 hours).
2. Each of two members of the staff in minor fields. These examinations will require one and one-half hours to answer (a total of 3 hours).

Candidates for advanced degrees must declare their intention of working toward an advanced degree and petition for admission to candidacy after having completed 10 hours of graduate work on the West Virginia University campus and no more than six hours in extension or by transferred credit or both.

Any candidate undertaking to write a problem or thesis must elect Home Economics 309.

Whenever a candidate shall enroll for courses offered through the West Virginia University Extension Division, she shall do so on the basis of having obtained previous approval from her adviser.

Whenever a candidate elects work in another institution with the expectation of transferring the credit to West Virginia University, she shall do so only with the approval of her adviser and the Dean of the Graduate School, well in advance of matriculation for such work.

A minimum of 6 hours shall be taken in courses open to graduate students only, that is courses in the 300 series. These shall be in addition to Home Ecomonics 360 or Home Economics 362.

Qualifying examinations may be required of students who come to West Virginia University for the first time.

No student may receive the M.S.H.E. Degree who does not have a "B" average in the major field.

THE DEGREE OF MASTER OF HOME ECONOMICS

Students who seek the degree of Master of Home Economics must have fulfilled the requirements for the degree of Bachelor of Science in Home Economics or for the Bachelor of Arts degree with a major in Home Economics at West Virginia University or at an approved institution offering an equivalent degree.

The curriculum is planned to meet the needs of those who wish training beyond the bachelor's degree in order to be better qualified for their professional work for homemaking. It provides for breadth of training rather than for specialization in a narrow subject matter area.

After completing ten hours of graduate work on the West Virginia University campus, the student should apply to the Graduate Committee in the Division of Home Economics for admission to candidacy.

At this time the student shall present a brief outline of the proposed problem for study.

When the student is admitted to candidacy, the graduate committee, in conference with the student and her adviser, will select three staff members to serve as an advisory and examining committee.

To insure breadth of training, students enrolled in this curriculum shall take work in at least five subject matter areas in Home Economics, with a maximum of ten credit hours in any one field. A maximum of ten credit hours may be taken in other colleges in the University.

The student shall plan her work in advance with the help of her adviser, selecting courses which will help her perform better the work which she plans to do.

Prior approval must be obtained from the adviser for all courses offered in fulfillment of degree requirements, whether they be taken in residence or by extension.

For the Master of Home Economics degree, the subject matter fields shall be those mentioned in the *West Virginia University Catalog.*

At present these fields are: foods and nutrition, institution management, textiles and clothing, applied art, health and child care, home management, and home economics education.

COURSES OF INSTRUCTION IN HOME ECONOMICS

Professor NOFR and STAFF.

1. Students in the College of Arts and Sciences who major in home economics must meet the requirements in that college and also the departmental requirements of the Division of Home Economics.

2. Students who wish to obtain the high-school certificate to teach home economics must meet the requirements of the State Board of Education, the College of Education, and the Division of Home Economics. The B.S.H.E. degree in the College of Agriculture, Forestry and Home Economics in planned to allow sufficient electives to meet these requirements.

3. Students from other colleges may elect home economics courses provided they can meet the prerequisites.

FOODS AND NUTRITION

Assistant Professors JONES and BERTHY.

1. SEC. 1. ELEMENTARY NUTRITION. I, II. 2 hr. Essentials of adequate diet; applications are made with particular reference to needs of college students. Mrs. Berthy

1. SEC. 2. ELEMENTARY NUTRITION. I. 2 hr. Advanced section of H.E. 1 for those who qualify on basis of placement test. Mrs. Berthy

21. NUTRITION AND FOODS FOR NURSES. I. 3 hr. Fundamental principles of human nutrition and of food preparation. Content of course is that given in "Teaching Dietetics to Student Nurses," by American Dietetics Association. Mrs. Berthy

101. NUTRITION. I. 3 hr. PR: Chem. 2 or Phys. Sci. 2, with consent, H.E. 15 or consent. Two lectures and 1 laboratory. Food needs as affected by such factors as age, sex, and activity; nutritive value of common foods; planning of adequate diets at different cost levels. Mrs. Berthy

111. REQUIREMENTS FOR NORMAL HUMAN NUTRITION. I, II. 3 hr. Lecture and demonstration. Two 2-hour and one 1-hour classes per week. For students in other colleges. Staff

121. NUTRITION WORK WITH CHILDREN. II. 3 hr. PR: 106 (or 106 parallel), 115. Problems involved in planning, preparing, and serving children optimum diets. Opportunity for students (1) to prepare noon meals for University Nursery School children; (2) to observe a number of school-lunch programs in and near Morgantown. Mrs. Berthy

181. PROBLEMS IN NUTRITION. I, II. 1-4 hr. PR: Consent. Staff

201. DIET IN DISEASE. II. 2 hr. PR: H.E. 101, Zool. 171, Chem. 131. Adaptations of normal diet for diseases whose prevention or treatment is largely influenced by diet. Offered in 1960-61 and alternate years. Staff

211. READINGS IN NUTRITION. II. 2 hr. PR: H.E. 101. Review of current literature and of present research. Topics depend upon needs and interests of class members. Offered in 1960-61 and alternate years. Mrs. Berthy

221. COMMUNITY NUTRITION PROBLEMS. I. 2 hr. PR: Consent. (2 hr. lec., field work.) Includes consideration of organizations and agencies through which these problems may be solved. Offered in 1959-60 and alternate years. Staff

231. NUTRITION EDUCATION FOR ELEMENTARY TEACHERS. 2 hr. PR: Consent. Fundamental principles of human nutrition with special emphasis on the needs of children. The laboratory period will be used for evaluation and development of instructional aids and teaching units. Staff

281. PROBLEMS IN NUTRITION. I, II. 1-4 hr. PR: Consent. Staff

15. FOOD SELECTION AND PREPARATION. I, II. 4 hr. PR: H.E. 1, Chem. 2, or Phys. Sci. 2, or consent. (2 lec., 2 lab.) Basic principles of food selection, care and preparation. Emphasis is placed on the chemical and physical properties of foods and reactions which occur during processing. Mrs. Jones

105. PLANNING AND SERVING FAMILY MEALS. 2 hr. PR: None. A practical course in food selection, preparation, and service. Course is based on student needs and interests. (Not open to Home Economics students). Mrs. Jones

115. Meal Planning, Preparation, and Service. I, II. 3 hr. PR: H.E. 15 or consent. (1 lec., 1-3 hr. lab). Selection and purchase of foods; planning, preparing and serving meals with emphasis on time, energy, and money management. Mrs. Jones

125. Foods for Special Occasions. II. 2 hr. PR: H.E. 15 or consent. Unusual foods and unusual methods of preparing and serving everyday foods. Preparation, organization, and management involved in food for social functions. Offered in 1959-60 and alternate years. Mrs. Jones

185. Problems in Foods. I, II. 1-4 hr. PR: Consent. Staff

205. Experimental Cookery. II. 3 hr. PR: H.E. 15, Chem. 131 (1 hr. lec., 2 2-hour lab.) Utensils, ingredients, temperature, manipulation, and cooking methods as they affect quality of cooked products. Offered in 1960-61 and alternate years. Mrs. Jones

215. Food Preservation. I. 2 hr. PR: H.E. 15 (2 2-hr. lab.) Fundamental principles involved and actual experience in various methods of food preservation. Offered in 1959-60 and alternate years. Mrs. Jones

285. Problems in Foods. I, II. 1-4 hr. PR: Consent. Staff

INSTITUTION MANAGEMENT

Assistant Professor Price.

108. Quantity Cookery. I. 3 hr. PR: H.E. 15, 101. One lecture, two 3-hr. laboratories arranged. Application of principles to preparation of food in large quantities. Use of standardized formulae, calculation of costs, and use of institution equipment. Cafeteria used as a laboratory. Miss Price

118. Institution Accounting. II. 2 hr. PR: H.E. 108. Current procedures in accounting for institutions. Preparation of budgets, food-control records, financial statements, and reports. Offered in 1960-61 and alternate years. Miss Price

128. Institution Buying. I. 2 hr. PR: H.E. 108. Producing areas, distribution of food products, specifications, storage and food practices in quantity buying. Observation in local wholesale markets, warehouses, and storage units. Offered in 1960-61 and alternate years. Miss Price

138. Institution Organization and Management. II. 3 hr. PR: H.E. 108. Principles of organization and management of food service. Cafeteria used as laboratory. Miss Price

148. Laboratory Practice in Institution Management. I, II. 2 hr. PR: H.E. 108, 138, and consent. (Arranged). Experience under supervision in planning, preparing, and serving food in an institution. Selection of place and type of experience to be determined by needs of students. Miss Price

188. Problems in Institution Management. I, II. 1-4 hr. PR: Consent. Staff

288. Problems in Institution Management. I, II. 1-4 hr. PR: Consent. Staff

TEXTILES AND CLOTHING

Professor Noer; Assistant Professors Dietrich and Franck.

2. Elementary Clothing. I, II. 2 hr. Problems in selection and construction of clothing. For freshmen and others who do not pass placement test. Miss Franck

12. Intermediate Clothing. I, II. 3 hr. PR: H.E. 2 or exemption of H.E. 2 by placement test. Development of judgment in selection and skill in construction. Emphasis on pattern alteration and fitting. Garments construction in woolen, synthetic, and cotton fabrics. One child's garment included. Miss Franck

102. Clothing Selection. I, II. 2 hr. PR: H.E. 3 or consent. Two lectures. Selection of clothing for whole family from viewpoint of design, color, and economy. Clothing inventories and buying plans. Miss Franck

132. Clothing Techniques. II. 2 hr. Not open to home economics students. Techniques for simple garment construction, remodeling, alteration, and repair. Problems adapted to needs of individual students. Especially planned for Arts and Sciences students and young homemakers. Miss Dietrich

182. Problems in Clothing Construction. I, II. 1-4 hr. PR: Consent. Staff

212. Advanced Clothing Construction. II. 2 hr. PR: H.E. 17, 233. Offers opportunity for creative expression and for understanding of pattern design through handling of fabrics on dress form. Costumes are designed, draped and constructed. Miss Franck

222. Tailoring. II. 3 hr. PR: H.E. 12, 17. Tailoring of suits and coats. Emphasis placed on professional techniques, advanced fitting and construction of garments. Second garment constructed by fast method techniques. Miss Franck

282. Problems in Clothing. I, II. 1-4 hr. Consent. Staff

17. Textiles. I, II. 3 hr. Lecture and laboratory combined. Textile fibers and fabrics studied with view to their use in dress and in the home. Characteristics of the major fibers and their suitability to various uses. Study of standard and novelty materials with emphasis on appropriate use and care. Miss Dietrich

117. Textile Buying. II. 2 hr. PR: H.E. 17. Lecture and laboratory combined. Buying of textiles for all types of clothing and for household. At least one field trip required. Offered in 1960-61 and alternate years. Miss Dietrich

187. Problems in Textiles. I, II. 1-4 hr. Staff

217. Readings in Textiles. I. 2 hr. PR: H.E. 17. Review and discussion of current literature reporting recent research in field. Offered in 1959-60 and alternate years. Miss Dietrich

287. Problems in Textiles. I, II. 1-4 hr. Consent. Staff

APPLIED ART

Assistant Professor Ramsey and Staff.

3. Art Applied to Personal Problems. I, II. 2 hr. Principles of design and color applied so as to help college students meet problems of daily living. Problems may include room arrangement, clothing design, etc. Miss Ramsey

23. Present Day Housing. I, II. 2 hr. PR: H.E. 3 or consent. Factors to be considered in selecting a home and furnishings for families of different income levels. Special attention to low cost housing. Laboratory practice in improving rooms, apartments, and houses, using materials commonly found in rural communities and small towns. Miss Ramsey

113. House Decoration. II. 3 hr. Not open to Home Economics students. Two lec., one lab. Materials and furnishings that go into decorating and furnishing a home, with emphasis on cost, buying, and reconditioning. Miss Ramsey

183. Problems in Related Art. I, II. 1-4 hr. Consent. Staff

233. Costume Design. I. 2 hr. PR: H.E. 2, 117. Techniques of figure and fashion drawing. Designing for individuals of various types and ages. Some history of costume included. Miss Franck

283. Problems in Related Art. I, II. 1-4 hr. PR: Consent. Staff

HEALTH AND CHILD CARE

Professor Brown; Instructor Ayersman.

106. Child Development. I, II. 3 hr. PR: Psych. 1 or 3, or Ed. 105 or 106. (2 lec.) Child from prenatal period to pre-adolescence. University Nursery School used for observing pre-school children. 4 hr. per week of observation and participation. Miss Brown and Mrs. Ayersman

116. Home Nursing. II. 2 hr. (1 lec., 1 2-hr. lab.) Practices to promote family health and care of minor illnesses. Offered in 1960-61 and alternate years. Staff

186. Problems and Participation in Nursery School. II. 1-3 hr. PR: H.E. 106. Directed experience in working with children in a nursery school situation. Laboratory and conference. Miss Brown

266. Needs of Adolescents. I. 3 hr. A study of adolescent needs as met by the home with contributions of other agencies such as church, school, and youth groups. Physical, social, and integrative needs will be considered from the standpoint of needs of all family members as well as the individual. Miss Brown and Mrs. Ayersman

286. Problems in Child Development. I, II. 1-4 hr. PR: Consent. Staff

HOME MANAGEMENT

Instructor Corliss and Staff.

4. Elementary Management. I, II. 2 hr. The application of management to the use of time, money, energy, and other resources to achieve individual goals. Miss Corliss and Mrs. Dorsey

104. Nutrition and Home Management. II. 3 hr. Planned to meet needs of social-work majors. Offered in 1960-61 and alternate years. Not open to Home Economics students. Mrs. Berthy, Miss Corliss and Staff

114. Management of Family Living. II. 2 hr. Influence of home conditions on families and family members. In considering ways of meeting every day problems of families, an attempt will be made to apply findings of science and techniques of management in such way as to help families achieve satisfaction in living. Open to non-majors. Staff

124. Demonstration Techniques. I, II. 2 hr. PR: Minimum of 4 hr. in each of 4 areas of home economics, or consent. Lecture demonstration as means of presentation of demonstrations suitable for secondary schools, and use with adult groups. Mrs. Dorsey

134. Principles of Home Management. I, II. 2 hr. An intermediate course in management as applied to the family and homemaking. Detailed consideration of family goals and resources. Miss Corliss

184. Problems in Home Management. I, II. 1-4 hr. PR: Consent. Staff

214. Family Economics. I. 2 hr. PR: 13 hr. of H.E. courses. Management of the family's money resource. Consideration of the economic problems of families, of planned spending and saving, and of the role of the consumer. Miss Corliss

234. Home Management Laboratory. I, II. 3 hr. PR: H.E. 15, 106, 114; 115 recommended. Arranged. A residence course designed to provide opportunity to apply management in a realistic homemaking situation to develop satisfying relationships in a family-like atmosphere, and to use information and skills learned in other courses. Miss Corliss

254. Household Equipment. II. 2 hr. PR: Senior standing. Selection, arrangement, use and care of equipment for various situations and for different income levels. Laboratory and discussion. Miss Corliss

264. Family Development. II. 2 hr. PR: H.E. 114 or consent. A professional course designed to prepare students for work with families in their varying stages of development and different socio-economic levels. Involves intensive study of family relationships as affected by differing stages of the family life cycle, from beginning family through the aging couple. Lecture, discussion, and observation of families. Staff

284. Problems in Home Management. I, II. 1-4 hr. PR: Consent. Staff

HOME ECONOMICS EDUCATION

Professors Noer and Brown.

Ed. 262. Vocational Home Economics in Secondary Schools. I, II. 2 hr. PR: 6 hr. of Educ. and 30 hr. in home economics. Miss Noer

209. Evaluation in Home Economics. 3 hr. PR: 30 hr. of home economics, 7 hr. of Educ. Experience in selecting, devising, and using evaluation devices for appraising student progress toward desired goals in home economics education. Miss Brown

219. Adult Education in Homemaking. I. 2 hr. PR: 30 hr. of home economics and 7 hr. of Educ. Current trends and present activities. Organization of adult classes; development of unit outlines; consideration of teaching methods; illustrative material and bibliography. Staff

229. Materials for Teaching Home Economics. II. 2 hr. PR: 30 hr. of home economics and 7 hr. of Educ. Offered alternate years. Staff

249. History of Home Economics. 1 hr. One lecture. Miss Noer

309. Research Methods. I, II, S. 2 hr. Adaptation of research techniques to problems in home economics. For students writing problems or thesis. Miss Brown

319. Home Economics Curriculum. II. 3 hr. PR: Experience in teaching home economics and consent. Selection and organization of learning experiences in home economics. Practices and techniques currently used for curriculum planning and reconstruction. Offered in 1959-60 and alternate years. Miss Brown

329. Supervision in Home Economics. II. 2 hr. PR: Teaching experience and consent. Designed for home economics teachers preparing to serve as supervising teachers in "off-campus" training centers. Function of supervision and organization of supervised teaching program. Techniques for helping students in training for teaching homemaking. Offered in 1960-61 and alternate years. Miss Brown

360. Problem Report for the Degree of Master of Home Economics. I, II, S. 1-3 hr. Staff

389. Problems in Home Economics Education. I, II. 1-4 hr. PR: Consent. Staff

The College of Arts and Sciences

GENERAL INFORMATION

Organization and Purpose

The College of Arts and Sciences includes a lower division and an upper division. The lower division consists of work of the first and second years, and the upper division consists of work of the third and fourth years.

Instruction in the College is administered through the following departments and integrated studies:

Art
Biology
Chemistry
Classics
Economics
English Language and Literature
Geology, Mineralogy, and Geography
Germanic Languages and Literatures
History
Home Economics
Library Science
Mathematics
Nursing Education
Philosophy and Psychology
Physics
Political Science
Romance Languages and Literatures
Sociology
Social Work
Speech
Integrated Studies:
  Humanities
  Social Sciences
  Biological Sciences
  Physical Sciences
  Communications

Main Objectives

The curriculum of the College of Arts and Sciences has these main objectives:

1. *General Culture.* Work of the lower division is intended to complete what is usually termed "a general education." It rounds out the program of studies pursued in high school and promotes full development of the student as an individual and as a member of society. Ideally, the student should undergo a well-portioned development intellectually, spiritually, physically, and emotionally. The end of such development should be an inner balance or stability on the basis of which further growth can take place. Development of the individual as a member of society is to be measured in terms of his or her usefulness and sense of responsibility to the social order. The student should develop the capacity of intellectual participation as a citizen in the community, state, country, and world. A general education should, therefore, provide for all students a meaningful experience appropriate to the individual and social needs which all citizens have in common as members of a free society in the contemporary world.

2. *Specific Attributes.* Most of the attributes of a general education can be placed in one of three categories: Attitudes, areas of knowledge, and skills.

The following attitudes should be attained as a result of a general education:

(1) An attitude of tolerance or open-mindedness, characterized by a cosmopolitan outlook that will enable the student to see beyond the limits of his own profession, his own economic status, and his own country;
(2) An attitude of truth-seeking characterized by scientific objectivity and motivated by intellectual curiosity;
(3) An attitude of intelligent appreciation towards nature and the arts that will, as far as the student's own endowments will permit, help him in his esthetic and ethical choices; and
(4) An attitude of dispassionate self-appraisal, based on an understanding of his own nature and characterized by an awareness of his own mental strength and weakness.

The areas of knowledge which should be the common possession of all educated persons may be conveniently grouped into two divisions:

(1) A knowledge of man as a social and intellectual being, of his place in contemporary civilization, and of that civilization's place in the history of man.
(2) A knowledge of man as an organism and of man in his relation, direct or indirect, to the biological and physical environment in which he lives.

Three basic skills are regarded as indispensable to all educated persons:

(1) That of self-expression or communication, involving writing, speaking, reading, and listening.
(2) That of calculation, that is, a knowledge of, and some skills in, basic mathematics.
(3) A familiarity with at least one foreign language, not only as a useful skill, but also as a means of promoting tolerance and sympathetic understanding of peoples who do not speak our language.

Courses Recommended

Two types of courses are recommended, as common means for fostering the attributes of mind and character which a general education should develop in all students enrolled in the lower division of the College. They are:

1. Courses for the promotion of the basic skills—calculation and communication, and
2. General introductory courses for the elementary but organically integrated study of four fields of human knowledge—biological science, social science, physical science, and the humanities.

Opportunity for Specialization

Work of the upper division is intended to provide intensive study in one or two fields of knowledge. It is based on the belief that an educated man or women should not only know the fundamentals of several branches of study but should have a rather thorough knowledge of some selected field. In the upper division therefore, the student concentrates on a major and one or two minors. The curriculum is sufficiently flexible, however, to meet the needs and tastes of individual students without at the same time exposing the student to the disadvantages of the free elective system.

Special Provisions for the Junior Certificate

Experience has shown that students whose average in high-school subjects was below 75 percent, or students who ranked in the lowest one-fourth of the high-school graduating class, probably will not succeed in the regular college curriculum. Nevertheless, such students may, by wise selection of studies, profitably spend one or two years in college. Other students for financial or other reasons may not be able to attend college for more than one or two years. It is believed that students in either group may spend their time more profitably taking courses in which they are particularly interested from a cultural or vocational point of view than by following the curriculum leading to the A.B. Degree. Students who are not candidates for the A.B. Degree but who earn 64 hours of college credit and 128 grade points, including general University requirements, in residence at this College will be awarded the Junior Certificate of the College of Arts and Sciences.

The Major Subject

In the upper division the student concentrates on a major and one or two minor subjects (in departments other than the major department) selected from the following list of subjects:

Art	Geology	Physics
Biology	German	Political Science
Botany	History	Psychology
Chemistry	Home Economics	Social Work
Classics	Library Science	Sociology
Economics	Mathematics	Spanish
English	Nursing Education	Speech
French	Philosophy	Zoology

Undergraduate Honors Program

Departments of the College of Arts and Sciences are permitted to establish undergraduate honors programs in conformity with the following provisions:

(a) *Admission to Honors.* Students admitted to honors will normally enter the honors program at the beginning of the second semester of the junior year.

(b) *Elgibility.* The principal qualification for admission to the honors program is ability to pursue independent academic work with vigor and imagination. A student will not qualify for admission to honors unless he has a cumulative grade-point average of at least 3.0 in all courses completed by the end of the fifth semester, and a grade-point average higher than 3.0 in the honor subject.

(c) *Program.* The heart of the honors curriculum is a coherent program of independent work, equal to a 3-hour course per semester, through the last three undergraduate semesters. Normally the honors work in the second semester of the junior year and first semester of the senior year will consist of independent reading or laboratory work, and the writing of reports. In his final undergraduate semester the student will prepare a thesis.

(d) *Examination.* Toward the end of his final undergraduate semester, the student must pass a comprehensive examination in the honors subject. The examination will ordinarily be written, though the Department may also require an oral examination.

Classification of Students

To be classified as a freshman in the College of Arts and Sciences a student must have credit for at least 15 units of entrance requirements; to be classified as a sophomore he must have fulfilled all entrance requirements and have credit for 25 hours of college work; as a junior, 58 hours; as a senior, 92 hours.

Advisers

Lower Division. Each student in the lower division is assigned to an adviser who will assist in registration and who will have general supervision over the work of the student. Electives are chosen and changes in the program are made with the approval of the adviser. Students are urged to confer with advisers in respect to any difficulties or maladjustments in college life.

Upper Division. For transfer to the upper division a student must have completed a minimum of 58 hours and have maintained a grade-point average of 2.0 on all work for which he has received grades (except "W" and "WP").

Each student in the upper division is assigned to an adviser of the department to which the major subject belongs. The program of study and all changes in class assignments must be approved by the adviser.

Student Class Schedules

Each student will schedule his courses according to the curriculum he has chosen. If he is required to repeat courses in which he has previously received a grade of "D" because of a deficiency of grade points (see below), such courses will be scheduled before any others. A second year student who has not completed all required courses listed in the first year of the curriculum that he is following will be required to schedule such courses before scheduling new courses. A student will not be registered for an upper-division course not provided in his lower-division curriculum unless he has satisfied all lower-division requirements or has scheduled the courses necessary to meet those requirements.

Withdrawal from scheduled classes will be permitted in an order reversed in priority from that stated in the preceding paragraph.

Maximum and Minimum Work

The maximum number of hours per semester for which a student may register is 18, the minimum is 14. A student in the upper division may, however, with the approval of his adviser, register for a maximum of 20 hours per semester provided that during the semester immediately preceding his registration he has attained an average of 3.0, and that the load was not less than 14 hours.

Minimum Scholastic Standards

Normal progress toward upper division status and graduation requires maintenance of a grade-point average of 2.0.

A student who lacks 10 or more grade points of having a total grade-point average of 2.0 at the end of any semester will be required to repeat courses in which grades of "D" were received to the extent of at least one-half of the semester hours for which he is registered, if it is possible to schedule such courses.

A lower-division student who, after earning 58 semester hours, is ineligible to enter the upper division because his total grade-point average is less than 2.0, will be required to repeat courses in which grades of "D" were received until an average of 2.0 or higher is attained. The number of hours to be repeated shall at least equal the grade-point deficiency or a maximum of 15 hours if it is possible to schedule such courses.

Courses given in other schools or colleges of the University need to be repeated under the operation of these rules only when such courses are required for the student's major.

Probation and Suspension

Any student whose mid-semester grades are below passing in courses amounting to more than half of the total number of semester hours for which he is registered shall be placed on probation for the remainder of the semester. The terms of probation are determined by the scholarship committee.

Any student whose grades at the end of any registration period are below passing in courses amounting to more than half of the total number of semester hours for which he is registered shall be suspended from the University. A freshman subject to the operation of this rule at the end of his first registration period in residence shall be placed on probation for the succeeding registration period.

A student who lacks 10 or more grade points of having a total grade-point average of 2.0 at the end of any semester or a lower-division student who, after earning 58 semester hours, is ineligible to enter the upper division because his total grade-point average is less than 2.0 must attain a total grade-point average of 2.0 or higher within two semesters in residence or be suspended.

All actions of the Committee on Scholarship and the Dean that effect the standing of a student shall be reported by the Dean to the Registrar.

Attendance

1. Students shall attend all classes, including laboratory sessions, for which they have enrolled, unless prevented from doing so by illness, injury, authorized University activities, or other reasons approved by the Dean.

2. A student enrolled in a course numbered under 100 shall be reported by the instructor to his adviser and his dean or director on an appropriate form as soon as his absences exceed the number of class meetings in a normal week.

3. A student whose absences in a course numbered under 100 exceed the number of class meetings in three normal weeks:

(a) shall again be reported to his adviser and to his dean or director; and
(b) may be barred from the final examination in the course by the instructor, except that the student is permitted to appeal the instructor's decision to the Dean of the College of Arts and Sciences, whose ruling shall be final.

4. Any student in an upper-division course shall be reported to his adviser and his dean as soon as his absences jeopardize his class standing.

5. The instructor may bar a student in an upper-division course from the final examination for excessive absences if:

(a) the student has been reported to his adviser and to his dean for excessive absences, and
(b) after being reported for excessive absences, his subsequent absences exceed the number of class meetings in a normal week, and
(c) the total number of absences exceeds the number of class periods in the course during three full weeks.

The student may appeal the instructor's decision to the Dean of the College of Arts and Sciences, whose decision shall be final.

6. A student who fails to attend a class meeting of a course after twice being reported for absences from it shall again be reported, and thereupon may be suspended from the University by the Dean of the College of Arts and Sciences.

7. Attendance rules shall apply equally, and separately, to lectures, quiz sections, discussion groups, and laboratory sessions.

8. A student who must be absent from class for an extended period of time shall inform his adviser or his dean.

Duties of Advisers

All advisers, upon receipt of reports of excessive absences, shall have conferences with the students concerned and shall make such recommendations and adjustments as are desirable and feasible. If the adviser does not find a satisfactory solution after a conference with the student, he shall report the case to the Dean.

Standing Committees

Curriculum Committee on General Education: Messrs. Manning (Chairman), Barnhart, Core, Crocker, Kerr, Lazzell, Patton and Peters.

Executive: Messrs. Curtis (1959), Stilwell (1960), and Vehse (1961).

Instructional Policies and Practices: Messrs: Gribble (Chairman), Barns, Brawner, O. R. Ford, Gibbard, Heald, Humphrey, and Vest.

Scholarship: Messrs. O. H. Cross (Chairman), Baer, Brouzas, Cunningham, Easton, G. A. Hall, Hayhurst, Ludlum, and McBride.

REQUIREMENTS FOR DEGREES

CREDIT DEFINED

The "semester hour" is the standard for computing the amount of work required for graduation in the curricula leading to these degrees. The "hour" represents the amount of work done in one semester (approximately 18 weeks) in one recitation hour with two preparation hours per week.

GENERAL REQUIREMENTS FOR ALL DEGREES

Foreign Language. Fewer than 6 hours in an ancient or modern language will not be counted towards any degree, diploma, or certificate in this College unless work in the same language has been offered for entrance.

English. Each undergraduate who begins his college work after June 1, 1952, must pass a proficiency examination in English after the beginning of his junior year in order to qualify for graduation. He shall take the examination during the first semester of his junior year, and if not declared proficient, shall repeat the examination as many times as is necessary.

Electives. At least 6 hours must be taken in each subject offered as a free elective, but not more than 9 hours in isolated courses of less than 6 hours each, selected with the approval of the adviser, may be offered.

In addition to regular elective work in the College of Arts and Sciences which is offered by the faculties in other colleges, work not to exceed 15 hours in the College of Law, College of Agriculture, Forestry, and Home Economics,[1] College of Commerce, College of Engineering and the School of Mines,[2] School of Music,[3] School

[1]In addition to the 15 hours, the following courses in agriculture are regular electives in the College of Arts and Sciences: Agr. Econ. 131 and all courses in entomology, genetics, and plant pathology.

[2]The engineering and mining electives include Chemical Engineering 186, 200, 205, 207, 234, 235, 238, 250, 251; Civil Engineering 1, 2, 5, 6, and 115; Electrical Engineering 100, 105; Mechanical Engineering 20, 26, 29, and 121; Mechanics 101, 102, and 104; and Mining Engineering 106, 109, 204, and 208. In addition the student may elect with the consent of his adviser, when his major is Physics, Chemical Engineering 160.

[3]The music electives include Theory of Music 1, 2, 3, 4, 77, 78, 109, 110, 113, 114, 117, 118, 184, 240, 241, 280, and 281; Ensemble 153, 154, 155, and 156; classes in orchestra instruments 191, 192, 193, and 196. Men's Glee Club, Women's Glee Club, Choral Union, University Choir, and University and Community Orchestra; and piano or voice or violin or organ or band and orchestral instruments.

of Physical Education and Athletics,[4] School of Journalism, or 6 hours of upper-division work in Military Science and Tactics or Air Science, and 20 hours in the College of Education, may be included in the list of elective credits offered by students in the College of Arts and Sciences. The total number of hours elected from other colleges shall not, however, exceed 24 hours in all.

The course in general biochemistry (Biochem. 239) is available (without additional fees) in the School of Medicine.

Major Subject. At least 88 hours of the total offered for graduation with an A.B. degree must be exclusive of the work done in the major department, which is normally not more than 40 hours.

ASSOCIATE IN ARTS DEGREE

The degree of Associate in Arts is conferred on the student who completes Option B of the regular course. The core of this program is in four introductory general courses: Humanities, Social Science, Biological Sciences, and Physical Sciences.

Students enrolled in the program will normally complete it in the first two years by taking any three of the general courses. Students who carry a reduced load or who wish to meet specific departmental requirements with other introductory courses may extend completion of the program beyond the two-year period with no reduction in grade points.

Students who complete satisfactorily three area courses, as well as the regular requirements in a foreign language, English composition, physical education general program, and military science and tactics or air science (men), will be considered to have met not only the general requirements of the University but also general (i.e., nondepartmental) requirements of the College of Arts and Sciences. Students who meet these requirements and have 64 hours of college credit and a grade-point average of 2.0 on all work in residence in the College of Arts and Sciences will be entitled to the two-year degree of Associate in Arts.

BACHELOR OF ARTS DEGREE

The Bachelor of Arts Degree in the College of Arts and Sciences is conferred upon any student who complies with the general regulations of the University concerning degrees, satisfies all entrance, college, and departmental requirements, and completes any one of the following courses of study:

I. Regular course
II. Premedical and Predental courses
III. Combined courses:
   (a) Arts and Dentistry
   (b) Arts and Medicine

In order to qualify for the degree of Bachelor of Arts in the College of Arts and Sciences, at least 128 semester hours of credit must be presented. A minimum of 124 hours must be established in subjects exclusive of credit earned in required Physical Education, required Military Science and Tactics or Air Science, and English 0.

Students transferring to West Virginia University from other institutions should ordinarily do so not later than the beginning of the third year. Such students must meet all the requirements of the lower division. All lower division deficiencies must be met as soon as possible after admission to the College of Arts and Sciences, whereupon such student may register regularly in the upper division.

[4]The electives in physical education are Phys. Educ. 77, 151, 67, 278, and Safety Education 181 and 281.

I. Regular Course (128 Hours)*

LOWER-DIVISION CURRICULUM

Option A:

(a) *General University Requirements*:
Military Science and Tactics or Air Science[5]—8 hours
Physical education (men)[6]—2 hours
Physical education (women)[6]—4 hours

(b) *Science.* At least 8 hours of a laboratory science chosen from the following: biology, botany, chemistry, geology, physical science, physics, psychology, and zoology.

(c) *Foreign Language.* To be eligible for graduation a student must have completed twelve semester hours in a foreign language in college or two units for entrance and six hours beyond courses 1 and 2 in the same language in college.

(d) *English Composition.* Ordinarily 6 hours of English composition (English 1 and 2) will be required of all freshmen. In case a freshman is not qualified to meet the requirements in English 1, as shown by placement or other tests, he (or she) will be assigned to English 0, which carries 3 hours of University credit. Upon the successful completion of the work in English 0, the student will register for the regular work in English 1 and English 2.

(e) *Distribution Requirements*: A selection of one subject from each of the following groups to total 24 hours is required. At least 12 hours shall be from lower division courses.
(1) At least 6 hours of History or of Humanities (general course).
(2) At least 6 hours of Economics, of Political Science, or of Social Science (general course).
(3) At least 6 hours of Literature (from the English language or a foreign language) or of mathematics.
(4) At least three hours of Art, of Home Economics, of Library Science, or of Speech.
(5) At least 3 hours of Geography, of Philosophy, of Sociology, or of a laboratory science not chosen in (b) above.

(f) *Electives.* Electives shall be chosen, under the supervision of the adviser, to make a total of 64 hours. Ordinarily freshmen should register for required courses. Electives should be used in the second year chiefly in meeting the preliminary requirements of the departments in which students expect to do work of the major (or minors) in the upper division.

Option B: *General Course Program of Integrated Studies* (64 *Hours*)

A sample schedule of courses for students enrolled in the whole program of Integrated Studies and planning to complete it in two years follows:

*See second paragraph under "Bachelor of Arts Degree," on previous page.

[5]Military science and tactics or air science instruction is required of all male students except those who at the time of matriculation are 23 years of age or have completed no less than 58 hours of work, and all who have credit for 8 hours of military science and tactics or air science or 1 unit of entrance credit in military academy. Students must register for military science and tactics or air science upon their entrance into the University and continue in the course until the full requirement has been met or until a regular exemption card is filed in the Office of the Registrar.

[6]Two hours of physical education general program for men, to be taken during the first year of residence, and four hours of physical education general program for women, to be taken during the first and second years in residence, are required for graduation of students presenting fewer than 58 semester hours, unless previous credit has been allowed.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Humanities 1	4	Humanities 2	4
Biological or Physical Sciences 1	4	Biological or Physical Sciences 2	4
English 1	3	English 2	3
Foreign Language	3	Foreign Language	3
Physical education	1	Physical education	1
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2
Electives	1-3	Electives	1-3
Maximum hours allowed	18		18

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Social Science 1	4	Social Science 2	4
Physical education (women)	1	Physical education (women)	1
Mil. or Air Sci 3	2	Mil. or Air Sci. 4	2
Electives[7]	11-13	Electives[7]	11-13
Maximum hours allowed	18		18

UPPER-DIVISION CURRICULUM

1. *A major sequence* of 18 to 24 hours of upper division courses, preceded by the proper lower-division courses prescribed as preparation for the major. This work should represent a coherent and progressive sequence of courses as outlined in the departmental announcements. This major subject will be selected when the student registers in the upper division, but the student must plan the work in the lower division in such a way as will meet the departmental requirements for the major and minor.
2. *A minor sequence* of 9 to 12 hours of upper-division courses, preceded by proper lower-division courses, in some department closely related to the major department. At the option of the major department a second minor of 6 hours may be required in a second department closely related to the major department.
3. *Distribution Requirements* to complete a total of 24 hours of Option A was used in the Lower Division Curriculum. See (e) above.
4. *Electives,* under supervision of the departmental adviser, to make a total of 128 hours. A minimum of 124 hours must be established in subjects exclusive of credits earned in required Physical Education, required Military Science and Tactics or Air Science, and English 0. At least 58 hours must be selected from the upper-division courses.

II. Premedical and Predental Courses (128 Hours) *

The following sequence of courses is worked out for the guidance of students who are preparing for the study of Medicine, Dentistry, and the related professions. All of the required subjects are included. While the pre-professional student is meeting the entrance requirements of professional schools, committees on admission of professional schools prefer that he use his elective hours to secure broad, general training rather than to secure a large number of credits in any one special field. Leading medical and dental educators in the United States today are definitely in favor of a good general training rather than extensive specialization in the so-called pre-medical sciences.

It is recommended that all premedical and predental students plan to complete the requirements for the Bachelor of Arts Degree.

[7]Students who do not present two units in a foreign language for entrance and who complete six hours in the same language in college must use three hours of electives here to complete the language requirements. Students who expect to complete the four-year course for a baccalaureate degree should use electives to complete prerequisites for a major or minor field while in the lower division.

*A total of 128 semester hours of which 124 semester hours must be exclusive of credit in required Physical Education, required Military Science and Tactics or Air Science, and English 0.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3
Chemistry 1	4	Chemistry 2	4
Zoology 1	4	Zoology 2	4
Mathematics 3	3	Mathematics 4	3
Physical Education	1	Physcial Education	1
Mil. or Air Science 1 (Men)	2	Elective (Women)	2-3
Elective (Women)	2-3	Mil. or Air Science 2 (Men)	2
Maximum hours allowed	18	Maximum hours allowed	18

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chemistry 105 or 115 or Psychology 1	3	Chemistry 115 or Psychology 1	3
Physics 1	4	Physics 2	4
French or German	3	French or German	3
Mil. or Air Science 3 (men)	2	Mil. or Air Science 4 (Men)	2
Physical Education (Women)	1	Physical Education (Women)	1
History 1 or 52	3	History 2 or 53	3
Art 115 or Speech 11 or elective	3	Art 115 or Speech 11 or elective	3
Maximum hours allowed	18	Maximum hours allowed	18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
French or German	3	French or German	3
Political Science 1	3	Political Science (upper division)	3
American or English Literature	3	American or English Literature	3
Chemistry 163 or 233	4-5	Chemistry 238 or elective	4-5
Zoology 231 or elective	5	Zoology 232 or elective	5
Maximum hours allowed	19	Maximum hours allowed	19

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chemistry 163 or 233 or elective	4-5	Chemistry 238 or elective	4-5
Zoology 231 or elective	5	Zoology 232 or elective	5
Electives	8-9	Electives	8-9
Maximum hours allowed	19	Maximum hours allowed	19

Many medical schools recommend that Chem. 233 and 238 and Zool. 231 and 232 be taken the year preceding entrance to medical school.

Candidates for the A.B. Degree in Premedicine or Predentistry must complete the following minimum number of credit hours in the subjects listed: English, 12 hr. (must include English 1 and 2 and 6 hr. of American or English literature); French or German, 12 hr.; Mathematics, 6 hr. (Must include Math. 3 and 4); Chemistry, 23 hr. (must include Chem. 1, 2, 115, 163, 233, 238 [105 also recommended]); Zoology, 18 hr. (must include Zool. 1 and 2 [Biology 1 and 2 may be substituted], 231, 232); Physics, 8 hr.; Psychology, 3 hr.; Nonscience group, 3 hr. in addition to specific courses listed above (to be selected from Art, English, Humanities, Economics, Sociology, History, Political Science, Philosophy, Psychology, Speech, Foreign language, Education, Latin, Home Economics, Music, Library Science, Mathematics, Social Science.) The following Arts and Sciences group requirements must be included in the Nonscience group: Group 1 (6 hr. of History or 6 hr. of Humanities [general course]); Group 2 (6 hr. of Economics or 6 hr. of Political Science, or 6 hr. of Social Science [general course]); and Group 4 (3 hr. of Art or 3 hr. of Home Economics, or 3 hr. of Library Science, or 3 hr. of Speech.) Arts and Sciences Groups 3 and 5 are included in specific departmental requirements. A minimum of 128 hours including 58 hours of upper-division courses are required for the degree.

III. Combined Courses

Special Requirements

Candidates for a combined A.B. degree (Pre-Medicine, Pre-Dental, or Pre-Law) are required to meet the special provisions of one of the two groups listed below. These requirements to be in addition to all other regulations prescribed in the particular curriculum for which the student is enrolled.

(a) A minimum of 96 hours of credit must be completed in the College of Arts and Sciences of West Virginia University of which 32 hours must be from the upper-division courses. If prior approval from the Scholarship Committee or the Dean of the College is obtained by formal petitioning at the time of acceptance into an accredited professional school or college, the successful completion of the first full year of the professional course may be offered in lieu of the senior work in residence. An official certification of the professional work must be made by the Registrar of the professional school to the University Registrar.

(b) A minimum of 64 hours of credit must be completed in the College of Arts and Sciences of West Virginia University of which 32 hours must be from the upper-division courses. If prior approval is obtained from the Scholarship Committee or the Dean of the College by formal petitioning at the time of acceptance into a professional school or college of West Virginia University, the successful completion of the first full year of professional work may be presented toward requirements for graduation.

ARTS AND LAW (123 *HOURS*)

Three years (96 hours) in the College of Arts and Sciences and one full year (27 hours) in the College of Law.

Since the College of Law, effective September, 1959, will not admit students who do not have the bachelor's degree, the combined Arts and Law degree program is no longer available.

ARTS AND MEDICINE OR DENTISTRY (128 *HOURS*)

(Recommended Curriculum for a Combined Course in Arts and Medicine or Dentistry)

Students who enter a School of Medicine or a School of Dentistry after the completion of a minimum of 107 hours (men) or 101 hours (women), of which 32 hours must be from the upper-division courses, of the premedical and predental curriculum and who have satisfied all provisions of the College of Arts and Sciences regulations governing combined course programs may receive the Bachelor of Arts Degree upon the successful completion of the first year of medicine or dentistry.

A student who is a candidate for the A.B. Degree under the provisions of this curriculum must submit, at the time of his acceptance and prior to his registration in an accredited School of Medicine or School of Dentistry, a petition for the degree to his adviser who will forward it with his recommendations to the Scholarship Committee. If the petition is approved, the candidate will be recommended for graduation upon receipt of certification from the professional school of the Registrar of the University to the effect that he has successfully completed the first year of medicine or dentistry.

FIRST YEAR

Same courses as required in the Curriculum for A.B. degree in Premedicine or Predentistry.

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chemistry 115 or Psychology 1	3	Chemistry 115 or Psychology 1	3
Physics 1	4	Physics 2	4
French or German	3	French or German	3
Mil. or Air Science 3 (Men)	2	Mil. or Air Science 4 (Men)	2
Physical Education (Women)	1	Physical Education (Women)	1
History 1 or 52	3	History 2 or 53	3
Art 115, Speech 11, or Pol. Sci. 1	3	Art 115, Speech 11, or Pol. Sci. 1	3
Maximum hours allowed	18	Maximum hours allowed	18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
French or German	3	French or German	3
American or English Literature	3	American or English Literature	3
Chemistry 163	4	Political Science (upper division)	3
Chemistry 233	4	Chemistry 238	4-5
Zoology 231	5	Zoology 232	5
Maximum hours allowed	19	Maximum hours allowed	19

The following minimum number of credit hours must be completed in the courses listed: English, 12 hr. (must include English 1 and 2 and 6 hr. of American or English literature); French or German, 12 hr.; Mathematics, 6 hr. (must include Math. 3 and 4); Chemistry, 23 hr. (must include Chemistry 1, 2, 115, 163, 233, 238); Zoology, 18 hr. (must include Zool. 1 and 2 [Biology 1 and 2 may be substituted], 231, 232); Physics, 8 hr.; Psychology, 3 hr.; Nonscience group, 15 hr. (must include Group 1, 6 hr. of History or 6 hr. of Humanities [general course]); Group 2, 6 hr. of Economics or 6 hr. or Political Science or 6 hr. of Social Science (general course); and Group 4, 3 hr. of Art or 3 hr. of Home Economics or 3 hr. of Library Science or 3 hr. of Speech. Groups 3 and 5 of the College of Arts and Sciences requirements are included in specific departmental requirements.

Students in the Combined Course program are urged to attend at least one Summer Session.

BACHELOR OF SCIENCE

The Bachelor of Science Degree is conferred upon a student who complies with the general regulations of the University concerning degrees, satisfies all entrance and college requirements, and completes the requirements of one of the fields listed below:

1. Chemistry (See page 152)
2. Geology (See page 166)
3. Nursing Education (See page 187)
4. Physics (See page 196)
5. Social Work (See page 209)

For details of the course of study in each of the above fields, refer to the pages listed.

A SECOND BACHELOR'S DEGREE

A student who has received a Bachelor's Degree in one department or college of West Virginia University may become eligible for a second Bachelor's Degree by earning an additional 30 semester hours in residence in the College of Arts and Sciences and meeting all requirements, departmental and otherwise, of the second Bachelor's Degree.

PRE-PROFESSIONAL COURSES

Not leading to degrees in the College of Arts and Sciences

(A). Pre-Commerce Curriculum

Candidates for the degrees of Bachelor of Science in Business Administration or Bachelor of Science in Economics will be registered in the College of Arts and Sciences during their freshman and sophomore years. They will then be transferred to the College of Commerce, provided they have completed all lower division requirements of that College. (For further information see the *Announcements of the College of Commerce.)*

(B). Pre-Education Curriculum

Candidates for the degree of Bachelor of Science in Secondary Education and Bachelor of Science in Elementary Education are registered in the College of Arts and Sciences until they have completed 58 hours or more of academic work in the lower division of the College, with a grade-point average of 2.0. They then transfer to the College of Education. During the Pre-Education period students are advised to complete as many as possible of the general courses required by the College of Education and for State certification, as shown in the bulletin, *Teacher Selection, Guidance*

Training and Certification, and/or the *Announcements of the College of Education.* These publications are available at the Office of the Registrar.

In addition to the above general academic requirements, students preparing to teach in high school are advised to complete as many as possible of the required academic courses in two teaching fields. Those preparing to teach in the elementary school will follow directions applicable to that field.

Upon the successful completion of the entire 64 hours of work in the lower division, Pre-Education students are eligible for the Junior Certificate of the College of Arts and Sciences.

TEACHING CERTIFICATES

The Dean of the College of Education is authorized by the Board of Governors to recommend all applicants for teaching certificates.

High-school teaching certificates may be obtained by students registered in the College of Arts and Sciences as well as in the College of Education, provided they meet the requirements for certification. To qualify for the elementary-school teaching certificate, the student will transfer to the College of Education at the beginning of the junior year.

For specific requirements in regard to certification see the bulletin *Teacher Selection, Guidance, Training, and Certification* and/or *The Announcements of the College of Education.* These publications are available at the Registrar's Office.

Candidates for the A.B. Degree who wish to qualify for teaching certificates should indicate this fact to their adviser and plan their entire course with this in view. Unless this is done by the end of the freshman year, students may encounter difficulties in qualifying for the certificate by the time they receive their degree. As a check, consultation should be had each semester with Beatrice Law, Mary Buswell, R. B. Clarkson, W. E. Miller, or J. L. Hicks, advisers of Pre-Education candidates for high-school teaching certificates; or with Frank Herrea, L. M. Davis, J. J. Flasher, Sam Boyd, or Barbara Drainer, advisers of Pre-Education candidates for elementary-school teaching certificates.

(C). Pre-Journalism Curriculum

Candidates for the degree of Bachelor of Science in Journalism are registered in the College of Arts and Sciences until they have earned at least 58 semester hours of college credit. During the freshman and sophomore years they should have completed all or most courses specified for pre-journalism majors.

An overall "C" average is required for admission to the professional school, but a pre-journalism student who has not maintained at least a "C-plus" average is strongly advised not to enroll in journalism. If his average grade in English 1 and 2 is less than "B," he should register for English 13 during his sophomore year. Before or soon after entering the University a student planning to become a journalism major should learn the touch system of typing.

The recommended pre-journalism curriculum:

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	Journ. 11	3	*Journ. 12	3
Hist. 1 or Humanities 1	3-4	Hist. 2 or Humanities 2	3-4	Hist. 52	3	Hist. 53	3
Natural Science	4	Natural Science	4	Foreign Language (if needed)	3	Foreign Language (if needed)	3
Foreign Language	3	Foreign Language	3	English 6	3	English 4 or 164	3
Journ. 1	1	Journ. 2	1	Econ. 1	3	Econ. 2	3
Phys. Educ.	1	Phys. Educ.	1	Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Mil. or Air Sci.	1 2	Mil. or Air Sci. 2	2	Phys. Educ. (women)	1	Phys. Educ. (women)	1
Electives	0-1	Electives	0-1	Electives as needed	..	Electives as needed	..
Max. Hr.	18		18		18		18

*Those planning to major in the Advertising-Management curriculum may substitute Journalism 103 for Journalism 12 at this time.

(D). Pre-Nursing Curriculum

The pre-professional nursing curriculum is offered by the Department of Nursing Education to students interested in professional nursing as a career, and who plan to enter a collegiate school of nursing. The Pre-Nursing Curriculum is designed to provide two years of general college work consisting of subjects required in most of the accredited collegiate schools; to stimulate and guide students in selection of courses in the physical and social sciences, in education and in the humanities, as a basis for the basic professional nursing programs leading to the baccalaureate degree; and to give students the personal rewards and satisfactions of working with and helping others, and of participating in nursing's contribution to family and national welfare in a democratic society as students and graduates of collegiate schools of nursing. Students are advised to select, as early as possible, the school of nursing they plan to enter, so that any specific requirements can be included in the required and elective hours provided. Experience has shown that students who fail to attain a minimum average of "C" may find it difficult to obtain admission to the school of nursing of their choice, or to any other collegiate or hospital school of nursing.
The recommended Pre-Nursing Curriculum is:

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	English (Lit.)	3	English (Lit.)	3
Chemistry 1	4	Chemistry 2	4	Sociol. 1	3	Sociology 2 or 210	3
Zoology 1 or		Zoology 2 or		Psych. 3	4	Psych. 122 or 125	3
Biology 1	4	Biology 2	4	or Psych. 1	3	Educ. 105	3
*Elective	3	Elective	4-5	Health Educ.	2	Elective	4
Phys Educ.	1	Phys. Educ.	1	Elective	3-5	Phys. Educ.	1
				Phys. Educ.	1		
	15		16-17		16-18		17

*Electives include subjects required by collegiate schools of nursing, such as speech, nutrition, bacteriology, history, and foreign language.

(E). Curriculum in Pre-Medical Technology

The curriculum outlined below is designed to satisfy the course requirements for admission to the specialized and technical portion of the curriculum in Medical Technology offered by the School of Medicine.

Students are not transferred automatically from the pre-professional course (first two years) to the professional course (third and fourth years). Preference is given to residents of West Virginia. Application for admission to the third year should be made on forms obtainable from the Office of the Medical Center Registrar. When completed, the forms are to be returned to his office.

Applications should be filed in February of the second year. Admission to the third year is on the recommendation of the Committee on Medical Technology of the School of Medicine, with the approval of the Dean of the School of Medicine.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chemistry 1	4	Chemistry 2	4
Zoology 1	4	Zoology 2	4
English 1	3	English 2	3
French or German	3	French or German	3
Mil. or Air Science (Men)	2	Mil. or Air Sci. 2 (Men)	2
Physical Education	1	Physical Education	1
Nonscience Electives (Women)	2-3	Nonscience Electives (Women)	2-3
Maximum hours allowed	18	Maximum hours allowed	18

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chemistry 131	4	Chemistry 6 or 106	4
English 3 or 5	3	English 4 or 6	3
French or German	3	French or German	3
Physics 1	4	Physics 2	4
Physical Education (Women)	1	Physical Education (Women)	1
Mil. or Air Science 3 (Men)	2	Mil. or Air Science 4 (Men)	2
Nonscience electives	2-3	Nonscience electives	2-3
Maximum hours allowed	18	Maximum hours allowed	18

Mathematics 2 and 3 are recommended electives.

(F). Pre-Pharmacy Curriculum

The University has approved a five-year program of study and training for graduation from the School of Pharmacy. The program will consist of two years of pre-pharmacy requirements and a professional curriculum consisting of three academic years. The first class to enter the professional curriculum with two years of pre-pharmacy courses will be in September, 1961.

Successful completion of this pre-pharmacy curriculum does not automatically guarantee acceptance as a candidate for the professional degree offered by the School of Pharmacy. Transfer is authorized only by action of the Committee on Admissions on a formal application submitted by the student. For more complete information, inquire of the Dean of the School of Pharmacy.

The two-year pre-pharmacy requirement for admission to the professional curriculum of the School of Pharmacy follows:

Algebra	3 hrs.	Economics	6 hrs.
Biology	8 hrs.	English Composition	6 hrs.
Chemistry, General	8 hrs.	Physics	8 hrs.
Chemistry, Qualitative	4 hrs.	Public Speaking	3 hrs.
Chemistry, Quantitative	3 hrs.	Trigonometry	3 hrs.
		Electives	10 hrs.

These requirements total 62 hours exclusive of Military Science and Tactics or Air Science and Physical Education. The electives may be selected from the following groups, not to exceed the amounts indicated:

		Not more than
Group 1. *Not to exceed 8 hours.*	History	6 hrs.
	Humanities	8 hrs.
	Political Science	6 hrs.
Group 2. *Not to exceed 6 hours.*	American Literature	6 hrs.
	English Literature	6 hrs.
	Language	6 hrs.
Group 3. *Not to exceed 6 hours.*	Business Law	3 hrs.
	Money and Banking	3 hrs.
	Princ. of Advertising	3 hrs.
Group 4. *Not to exceed 6 hours.*	Art	3 hrs.
	Music Appreciation	3 hrs.
	Philosophy	6 hrs.
	Photography	3 hrs.
	Psychology, general	3 hrs.
	Sociology	3 hrs.

(G). Rehabilitation Counselor Training

The College of Arts and Sciences, through its Departments of Psychology and Social Work, in participation with the Guidance Division of the College of Education, cooperates in the curriculum of the Interdepartmental Training Program in Rehabilitation Counseling in the Graduate School. The deans of the above colleges, the

above Department Heads and the Program Coordinator constitute the Administrative and Policy Committee responsible for the curriculum.

Graduates of this Program are prepared to enter private and public agencies and facilities providing services to handicapped persons.

(See course offerings in Psychology, Page 195, 213, and Social Work, Page 104. For further details, consult *The Announcements of The Graduate School.*)

COURSES OF INSTRUCTION AND CURRICULA

INTEGRATED STUDIES

Professor CROCKER (Chairman); Instructors HOKE, MILLER, and NEWMAN; and INTERDEPARTMENTAL STAFF.

Integrated Studies covers four main areas of knowledge and certain basic skills. In the four principal fields of knowledge, courses cut across departmental lines as follows: (1) Humanities: history, Romance languages, English language and literature, speech, Germanic languages and literature, art, philosophy, and music; (2) Social Studies: political science, psychology, economics and business administration, sociology, and social work; (3) Biological Sciences: zoology, botany, biology, and psychology; (4) Physical Sciences: geology, geography, chemistry, physics, mathematics, and astronomy. In the basic skills, courses are offered in Communication: writing, speaking, reading, and listening.

In the lower division, the four introductory general courses provide a general knowledge of subjects not covered by the student's field of major interest and a perspective for later concentration in certain fields. These courses, are, in addition, recommended for the student who has not chosen a field of specialization. The student will have through these introductions to the main bodies of knowledge an opportunity to discover his real interests and aptitudes for more advanced study. The communication courses develop proficiency in the skills of writing, reading, speaking, and listening, and thus contribute toward successful work during college and after graduation. Available to all students in the University are laboratory and clinical facilities for corrective work in speech, reading, writing, and listening.

In the upper division, courses are offered that continue at an advanced level the study of important ideas and concepts in the various fields of learning. A deliberate attempt is made to secure in these courses an integrated understanding of a particular subject and its important connections with related fields. These courses frequently consider problems not encountered in sharply defined departmental or specialized courses, and they serve to provide the student with important cross-connections between established disciplines.

COURSES OF INSTRUCTION

I. THE HUMANITIES

1, 2. INTRODUCTORY GENERAL COURSE. I, II. 4 hr. per sem. This course is designed to bring to the student's attention cross sections of his civilization at those points where its development has been most significant. In accordance with this aim a substantial part of the course is its background of history, to which are added a survey of world literature, enough philosophy to acquaint the student with the principal thought patterns employed by Western men, the main developments in art and architecture, and some music. A constant attempt is made in the lectures and discussions to relate the past with the present, and to show the continuity of what we call Western Civilization.

The assigned readings constitute the most important feature of the course, in that they supply most of the factual material. Lectures are primarily for the purpose of orientation—to help the student interpret the reading. Lectures on art, architecture, and music are illustrated. Weekly discussion periods are an important part of the course. In them, students meet in small groups with an instructor, and an effort is made to help them understand the relations of the past to present-day problems. Through the aid of a syllabus, the course is shown in perspective in order that is may be better conceived as a whole.

Mr. Manning and Staff

141. Great Books. (First Course). I. 3 hr. Five literary masterpieces in translation are considered in this course: Plato's *Republic,* Sophocles' *Oedipus Rex* and *Antigone,* Dante's *Divine Comedy,* Carvantes' *Don Quixote,* and Gothe's *Faust.* Taken separately and in order they represent the Greek world, the Middle Ages, Renaissance and the Modern period. Taken as a group they illustrate the persistent conflict in the literature of Western Civilization between the actual and the ideal. Staff

142. Great Books. (Second Course). II. 3 hr. Five literary masterpieces, of which four are in translation, are considered in this course: Marcus Aurellius' *Meditations,* Benvenuto Cellini's *Memoirs,* Montaigne's *Essays,* Rousseau's *Confessions,* and *Education of Henry Adams.* These evaluations of the problems of life, ranging from the time of the Roman Empire to the modern American, constitute the integrating principle of the course. Staff

181, 182. American Civilization. I, II. 3 hr. per sem. This course is designed to acquaint the student with the salient characteristics of American Civilization as they have developed since the planting of European colonies on this continent. Emphasis is placed on the unique contributions of successive arrivals on American shores to the making of a distinctive American culture, as evidenced in its folkways, arts, and philosophy. The central theme of the course is the mainifestation of the democratic spirit in the achievements in thought and feeling of the American people. This course is open to all upper-division students. Mr. Newman

II. THE SOCIAL SCIENCES

1, 2. Introductory General Course. I, II. 4 hr. per sem. The general course in social science aids the student in his preparation for citizenship by advancing his understanding of the social order. Major attention is given to an analysis of economic, political, and other social conditions now existing in the United States. A brief analysis of the place of this country in world affairs is included. The course is organized on the basis of two lectures and two discussion periods each week. Mr. Gibbard and Staff

III. THE BIOLOGICAL SCIENCES

1, 2. Introductory General Course. I, II. 4 hr. per sem. Primarily for the student who is not a major in biology, the Introductory General Course deals with the basic values of biology in relation to civilization and modern culture. The course considers the organization and functions of living organisms in general, as well as the relations between these organisms and the connection with their physical environment, but emphasis throughout is placed on the importance of the human being and his relationships with other organisms.

Individual student participation is encouraged in discussion periods and in the laboratory where subject matter may require some group work with equipment and specimens. Lectures are amplified by moving pictures and by demonstrations. (*This course is identical with Biology* 1 *and* 2, *General Biology*).
Mr. Core and Staff

207. History of Biology. I. 3 hr. PR: 1 yr. of biology or equiv. This course deals with the landmarks in the history of the development of biological knowledge. Relatively intensive studies are made of the biographies of outstanding biologists as examples of their periods. Mr. Core

208. Great Texts in Biology. II. 1 hr. PR: Biol. 2 or equiv. A study of some of the great classics in biology, such as Theophrastus' *Enquiry into Plants,* Vesalius' *Epitome,* Harvey's *Motion of the Heart and Blood,* Darwin's *Origin of Species,* and Mendel's *Experiment in Hybrid Plants.* The course is designed to acquaint the student with the historical and philosophical background of modern biology and to show how the utilization of the scientific method has resulted in the great biological discoveries. Mr. Core

IV. THE PHYSICAL SCIENCES

1, 2. Introductory General Course. I, II. 4 hr. per sem. The Introductory Course in Physical Sciences is intended to acquaint the student with the physical world

in which he lives. The course has two main objectives: to serve as an orientation course for those students who have not chosen their major field of interest, and to present a broad general view of the physical sciences to students whose interests lie in other fields.

Two periods each week are devoted to formal lectures and desk demonstrations, one period a week is used for discussion and quiz in small groups; and one period a week is devoted to laboratory demonstrations, museum displays, and field trips. Motion-picture films are used in connection with certain phases of the course. The syllabus is designed to give a general view of the whole field of the physical sciences as well as serve as a guide for weekly lectures, readings, and discussions.

Students who have successfully completed eight hours of a laboratory science in one of the physical science fields (physics, chemistry, geology) can not take Physical Science 1 and 2 for credit. Mr. Hickman and Staff

200. Workshop in Physical Sciences. I. 2 hr. PR: 12 hr. of course work in physical sciences. Designed for secondary school teachers of science. Graduate credit limited to teachers and prospective teachers. Staff

201. Physical Science for High School Teachers. I, S. 3 hr. PR: Physical Science Teachers. The course includes: lecture demonstration and laboratory techniques, a study of demonstration and laboratory equipment suitable for high schools, and a review of modern developments in the physical sciences. Mr. Hickman and Staff

202. Physical Science for High School Teachers. S, II. 3 hr. PR: Phys. Sci. 201 or equivalent. An extension of Phys. Sci. 201 to additional topics of interest to the high school teacher, such as applied organic chemistry and radio. This is the terminal course in integrated physical science for high school teachers. (This course is reserved in 1959 for members of the National Science Foundation Summer Institute). Mr. Hickman and Staff

V. COMMUNICATION

English 0 (Communication). Corrective Course. I, II. 3 hr. For students deficient in the communication skills, as determined by achievement on entrance tests in writing and speaking. Remedial work in laboratory classes. Must be followed by English 1 (Communication) and English 2 (Communication). Staff

English 1 (Communication). Basic Course in Composition and Rhetoric. I, II. 3 hr. Practice in writing, reading, speaking, and listening to expository discourse. Classes organized to emphasize one of the skills according to the needs of the students. Special sections are provided for students with no marked deficiencies in any of the communications skills, as determined by achievement on entrance tests and in performance tests in writing and speaking. Staff

English 2 (Communication). Basic Course in Composition and Rhetoric. I, II. 3 hr. PR: English 1 (Communication). Continuation of English 1 (Communication). Practice in critical and argumentative discourse. Consideration of the function of language, abuses of logic, and mass communications. Advanced sections are provided. Staff

Courses primarily for sophomores:

English 21 (Communication). The Use of Language. I, II. 3 hr. PR: English 1 and 2 or English 1 (Communication) and 2 (Communication). Practice in the communication skills based upon materials covered by the four general areas of knowledge which constitute the program of Integrated Studies. Staff

ART

Professor Patton; Associate Professor Clarkson; Assistant Professor Drainer; Instructors Aull and Freedman.

The Department of Art offers technical courses in drawing, painting, and design; a nontechnical course in appreciation; courses in Art Education; and lecture courses in the history of the arts. Effort is made to provide the needs of those interested in

the cultural aspects of the arts, to meet the requirements of students planning further work of a technical nature, and to enable students in Education to meet requirements for certification as art teachers.

For art majors the following program is recommended:

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3
Foreign Lang.	3	Foreign Lang.	3
Laboratory sci.	4	Laboratory sci.	4
Art 11	3	Art 12	3
Mil. or Air Sci. 1	2	Art 30	2
Phys. Educ.	1	Mil. or Air Sci. 2	2
		Phys. Educ.	1
Elective to make	18	Elective to make	18

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Foreign Lang.	3	Foreign Lang.	3
Art 121	3	Art 122	3
Elect. Group 1	3-4	Elect. Group 1	3-4
Elect. Group 2	3-4	Elect. Group 2	3-4
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Phys. Educ.	1	Phys. Educ.	1
Elective to make	17-18	Elective to make	17-18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Art 113	3	Art. 114	3
Art 105	3	Art 106	3
English 18 or 21	3	Upper Division elect. Group 3	3
Upper Division elect. Group 3	3	Upper Division elect. Group 5	3-4
Elective	6	Elective	4
	18		16-18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Art elective	3	Art elective	3
Minor sequence (upper div.)	4-6	Minor sequence (upper div.)	4-6
Elective to make	18	Elective to make	18

Courses of Instruction

1. Creative Expression in Fine Arts. I, II, S. 2 hr. Primarily for Elementary Education majors. An exploratory course designed to familiarize the student with the possibilities of creative expression through graphic media; to acquaint the student with the advantages and limitations of the various media; and to investigate the adaptability of these to use at various grade levels. Miss Drainer and Staff

2. Creative Expression in the Applied Arts. I, II, S. 2 hr. A course similar to Art 1 but employing materials such as clay, plasteline, paper, felt, gasso, plaster, and the like, as a means of creative expression. Miss Drainer and Staff

11 or 111, 12 or 112. Drawing. I, II. 3 hr. per semester. Freehand drawing in pencil and charcoal. Staff

30. Appreciation of the Fine Arts. I or II. 2 hr. A study of outstanding works of art from times past as well as from the present day. Topics treated include—the materials with which the artist works; sources of the art impulse; and the relation of art to the civilization producing it. Mr. Clarkson and Staff

105, 106. Survey of Art. I, II. 3 hr. per semester. History of art from pre-historic times to the present. Offered 1959-60 and alternate years. Mr. Patton

113, 114. Painting. I, II. 3 hr. PR: Art 11, 12. Beginning watercolor and oil. Staff

115. Scientific Drawing. I, II. 3 hr. Freehand drawing primarily for premedical and predental students. Staff

117, 118. Painting. I, II. 3 hr. PR: Art 113, 114. Second semester watercolor and oil. Mr. Patton and Mr. Clarkson

120. Figure Drawing. I or II. 2 hr. PR: Art. 11, 12 or consent of instructor. Study of the construction of the figure. Drawing from the draped model. Staff

121, 122. Fundamentals of Design. I, II. 3 hr. per semester. Mr. Clarkson

123. Lettering. I or II. 2 hr. Principles of design involved in lettering and their application. Mr. Patton

126. Modeling. I, II. 2 hr. PR: Consent of instructor. Introductory course in sculpture. Mrs. Aull

127. Crafts. I or II. 2 hr. Crafts in their relation to the art program in the secondary school and to recreation programs. Staff

130. Appreciation of the Arts. I or II. 3 hr. Increasing the student's understanding and enjoyment of the arts; analytical study of selected examples of painting, sculpture, and architecture together with sufficient illustrations from music and poetry to make clear the basic unity of the arts. Mr. Patton

151, 152. Special Problems. I, II. 1-3 hr. per semester. Staff

213. Painting. I, S. 3 hr. PR: Art 113, 117 and consent. First semester advanced watercolor. Messrs. Clarkson, Freedman and Patton

214. Painting. I, II, S. 3 hr. PR: Art 213 and consent. Second semester advanced water color. Mr. Clarkson or Mr. Freedman

216. Painting. II, S. 3 hr. PR: Art 114, 118, and consent. First semester advanced oil painting. Mr. Clarkson or Mr. Freedman

217. Painting. I, II, S. 3 hr. PR: Art 216 and consent. Second semester advanced oil painting. Mr. Clarkson or Mr. Freedman

220. Art and the Schools. I, II, S. 2 hr. PR: 4 hr. of art including a minimum of 2 hr. Studio Miss Drainer

221. Administration and Supervision of Art. I, II, S. 2 hr. PR: Art 220. Mainly for administrators and School Principals who wish to become informed about all programs and the philosophies underlying them. Miss Drainer

241. Medieval Architecture. I, II, S. 3 hr. PR: Art 105, 106. A study of Architecture from the time of Constantine to the Renaissance. Mr. Patton

250. Renaissance Painting. I, II, S. 3 hr. PR: Art 105, 106. A study of painting in Italy from Cimebue to Tiepolo; the Rennaissance in Western Europe; a brief consideration of baroque and rococo painting as outgrowth of the Renaissance. Offered 1960-61 and alternate years. Messrs. Patton and Clarkson

260. Modern Painting. II, S. 3 hr. PR: Art 105, 106. Developments in painting from the French Revolution to the present day. Messrs. Patton and Clarkson

271. American Architecture. I, II, S. 3 hr. PR: Art 105, 106. Developments in Architecture in North America from Pre-Columbian times to the present day. Emphasis will be placed on the architecture of the United States. Mr. Patton

290. Study of Original Works of Art. S. 6 hr. PR: Art 105, 106, and consent of the Department. Directed study in the museums and libraries of some urban center such as Washington or New York; a study of the architectural developments of the locality. Mr. Patton and Staff

350, 351. Special Topics. I, II, S. 1-3 hr. per sem. PR: Consent of the Department. Individual study to be determined by the student's requirements. Staff

391, 392. Thesis. I, II, S. 2-3 hr. PR: Approval of Student's Committee. Staff

BIOLOGY

Professors Core, Ammons, Gribble, and Taylor; Associate Professors Bennett and Norman; Assistant Professors Clovis, Goldberg, and Nelson; Instructors Baer, Birch, Clarkson, Montiegel, Schmieder, and Smell.

Students may select biology, botany, or zoology as their major subject. Biology 1 and 2 or Botany 1 and 2 will be required of students who wish to major in botany.

Either Biology 1 and 2 or Zoology 1 and 2 will be required of students who elect to major in zoology. Majors in biology should take Biology 1 and 2.

Prospective majors in biology, botany, or zoology, should include in their schedule of lower-division work Chemistry 1 and 2. Prospective majors in zoology should also include Chemistry 115 in the lower-division schedule.

Courses in botany and zoology (not to exceed ten semester hours in each) may be counted toward a major in biology, provided that the student has a minimum of six semester hours in upper-division courses in biology.

TEACHER CERTIFICATION FOR BIOLOGY MAJORS

A student may meet the requirements for the A.B. degree with a major in Biology and at the same time qualify for teacher certification. The curriculum suggested below is designed to include the requirements of the basic subjects prescribed for the first two years for prospective teachers. During the junior and senior years the courses required in the major and minor subjects will largely coincide with those required for first and second teaching fields for high school teachers. At the same time they will complete the required work in Education in the teacher-training program.

CURRICULUM FOR THE A.B. DEGREE WITH A MAJOR IN BIOLOGY

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3
Hist. 1	3	Hist. 2	3
Biol. 1	4	Biol. 2	4
Foreign Lang.	3	Foreign Lang.	3
Phys. Educ.	1	Phys. Educ.	1
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2
	14-16		14-16

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 1	4	Chem. 2	4
Soc. Sci. 1	4	Soc. Sci. 2	4
Foreign Lang.	3	Foreign Lang.	3
Ed. 105	3	Ed. 106	3
Music 10	2	Art 130	3
Phys. Educ. (women)	1	Phys. Educ. (women)	1
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
	17-18		18-19

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Physics 1	4	Physics 2	4
Biol. (Upper Div.)	4	Biol. (Upper Div.)	6
Genetics 221	3	English 3, 4, 5, or 6	3
English 18 or 21	3	Chem. 106	4
Ed. 109	3		
	17		17

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Ed. 124	4	English 163 or 164	3
Ed. 150	2	Biol. (Upper Div.)	10
Ed. 120	2	Chem. 233	5
Ed. 114	3		
Biol (Upper Div.)	4		
Hlth. Ed. 101	2		
	17		18

CURRICULUM FOR THE A.B. DEGREE WITH A MAJOR IN BOTANY

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Botany 1 or Biol. 1	4	Botany 2 or Biol. 2	4
English 1	3	English 2	3
Foreign language	3	Foreign language	3
Group 3 elective	3	Group 3 elective	3
Phys. Educ.	1	Phys. Educ.	1
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2
Elective	2	Elective	2
	16-18		16-18

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Foreign language	3	Foreign language	3
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Phys. Educ. (women)	1	Phys. Educ. (women)	1
Physics 1	4	Physics 2	4
Chem. 1	4	Chem. 2	4
Group 1 elective	3-4	Group 1 elective	3-4
	16-18		16-18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Group 2 elective (lower div.)	3	Group 2 elective	3
Group 4 elective (lower div.)	3	Chem. 115	3
Group 5 elective (upper div.)	3	Genetics 221	3
Botany (or elect.) (upper div.)	7-9	Botany (or elect.) (upper div.)	7-9
	16-18		16-18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 233	4	Chem. 238	4
Botany (or elect.) (upper div.)	12-14	Botany (or elect.) (upper div.)	12-14
	16-18		16-18

CURRICULUM FOR THE A.B. DEGREE WITH A MAJOR IN ZOOLOGY

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Zool. 1 or Biol. 1	4	Zool. 2 or Biol. 2	4
English 1	3	English 2	3
Chem. 1	4	Chem. 2	4
Math. 3	3	Math. 4	3
Phys. Educ.	1	Phys. Educ.	1
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2
	17		17

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Art 115	3	Chem. 115	3
Physics 1	4	Physics 2	4
Foreign language	3	Foreign language	3
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Phys. Educ. (women)	1	Phys. Educ. (women)	1
Group 1 elect.	3-4	Group 1 elect.	3-4
Electives	2-4	Electives	2-4
	18		18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Group 2 elective	3	Group 2 elective	3
Chem. 233	4	Foreign language	3
Foreign language	3	Botany	4
Botany	4	Chem. 238	4
Zool. 251	4	Electives (upper division)	3-5
	18		18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 163	4	Zool. 232	5
Zool. 231	5	Zool. 274	4
Electives (upper division)	4	Electives (upper division)	7-9
Zool. 273	4		
	18		18

Candidates for the A.B. degree in Zoology must complete the following minimum number of credit hours in the subjects listed in addition to the University and College of Arts and Sciences general requirements: Mathematics, 6 hr. (must include Math. 3 and 4); Chemistry, 23 hr. (must include Chem. 1, 2, 115, 163, 233, 238); Physics, 8 hr.; Art 115; Biological Sciences, 38 hr. (must include Zool. 1 and 2 [Biology 1 and 2 may be substituted], Zool. 231, 232, 251, 273, and 274, and 8 hr. of botany). A total of 128 semester hours are necessary for this degree, of which 124 hours are in subjects exclusive of required Military Science and Tactics or Air Science, required Physical Education, and English 0. A minimum of 58 upper-division hours are also necessary.

Courses of Instruction

BIOLOGY

Lower Division

1, 2. General Biology. I, II. 4 hr. per sem. General Introductory course in Biology. Mr. Core and Staff

51. Microbiology. I. 3 hr. An introduction to the study of microorganisms. Primarily for nurses. Mr. Bennett

Upper Division

201, 202. Biology Workshop. I, II. 2 hr. per sem. PR: Biol. 2 or equivalent. Lectures and conferences designed to fit individual needs. Primarily for biology teachers or those preparing to teach biology. Mrs. Smell

203. Natural History. S. 3 hr. PR: General Biology or equivalent. Lectures, demonstrations, and field trips designed to provide a brief survey of certain aspects of general biology suitable for elementary and high schools. Mr. Nelson

204. Biology Workshops. I. 3 hr. PR: Biol. 2 or equiv. Lectures and demonstrations designed to aid the teacher of pre-college biology, and constituting a general review. Mr. Clovis

205. Principles of Evolution. I, S. 3 hr. PR: Biol. 2, Botany 2, or Zool. 2. An introduction to the study of evolution. Mr. Bennett

206. Modern Concepts in Biology. S. 2-3 hr. PR: Biol. 2 or equiv. A course designed to acquaint the advanced student or teacher with the latest methods and knowledge in the field of biology. The effect of new information in confirming or changing older concepts will be fully explored, with student participation emphasizing different areas. Mr. Clovis

207. History of Biology. I. 3 hr. PR: Biol. 2. History of the development of biological knowledge, with philosophical and social backgrounds. Mr. Core

208. Great Texts of Biology. II. 1 hr. PR: Biol. 2 or equiv. A study of some of the great classics in biology, such as Theophrastus' *Enquiry into Plants,* Vesalius' *Epitome,* Harvey's *Motion of the Heart and Blood,* Darwin's *Origin of Species,* and Mendel's *Experiments on Hybrid Plants.* Mr. Core

209. The Literature of Biology. I. 1 hr. PR: Biol. 2 or equivalent. A consideration of the sources and forms of the literature, the development of bibliographies, and the preparation of scientific papers. Mr. Core

211. Microtechnique. I. 3 hr. PR: Biol. 2, Botany 2 or Zool. 2, or equiv. Theory and practice of making microscopic preparations, etc. Mr. Clovis

212. Biological Preparations. S. 3 hr. PR: Biol. 1. Methods for the preparation of microscope slides and other demonstration materials for high school biology classes. Emphasis will be on procedure using equipment and reagents commonly available to the teacher. Staff

215. Cytology. II. 4 hr. PR: Biol. 2. Cells, their structure and functions. Mr. Bennett

Graduate Division

301, 302. Seminar. I, II. 1 hr. per sem. Topics of interest to all biologists are considered. All members of the staff and graduate students contribute by the presentation of a report on some scientific activity. Required of all graduate students. Staff members and students in other departments are invited to attend. Staff

311. Advanced Microtechnique. II. 1-3 hr. PR: Consent of Instr. Staff

321, 322. Seminar in Ecology. I, II. 2 hr. per sem. PR: Botany 221 or Zool. 221 and consent. Selected topics on relations of organisms to environment and on communities of organisms. Staff

376, 377. Seminar in Physiology. I, II. 2 hr. per sem. PR: Biol. 274, Botany 273, Zool. 271, or Plant Path. 330, and consent. Selected topics on functions common to all organisms. Staff

BOTANY

Lower Division

1, 2. General Botany. I, II. 4 hr. per sem. Introductory course in botany. Miss Ammons

61. Systematic Botany. I. 2 hr. Identification of seed plants. Primarily for students in Forestry. Mr. Clovis

67, 68. Dendrology. I, II. 3 hr. per sem. PR: Biol. 2. Classification and distribution of the timber trees of the United States. Primarily for students in Forestry. Mr. Core and Staff

71. Plant Physiology. II. 2 hr. Physico-chemical processes of plants. Primarily for students in Forestry. Mr. Baer

Upper Division

104. The Plant Kingdom. II. 4 hr. A survey of the plant kingdom. Miss Ammons

161. Systematic Botany. II. 4 hr. The identification and classification of vascular plants. Mr. Clovis

201, 202. Seminar. I, II. 2 hr. per sem. Topics of interest to all students of plants are considered. Staff

204. Advanced Botany. S. 3 hr. PR: Botany 2 or equiv. A survey of the plant kingdom; primarily for those preparing to teach high school biology. Miss Ammons

218. Economic Botany. II. 3 hr. PR: Biol. 2 or Botany 2. Plants from the standpoint of their value to man. Mr. Clarkson

221. Plant Ecology. I. 4 hr. PR: Biol. 2 or Botany 2. Environmental relationships of plants. Mr. Baer

224. Plant Communities. S. 3 hr. PR: Biol. 2 or equiv. Field studies in Ecology. Mr. Bennett

227. Geographic Botany. I, S. 2 or 3 hr. PR. Botany 2 or Biol. 2. Study of plant groupings and worldwide distribution of plants. Mr. Core

231. Plant Morphology. I. 4 hr. PR: Biol. 2 or Botany 2. Development and structure of algae and fungi. Mr. Bennett

232. Plant Morphology. II. 4 hr. PR: Biol. 2 or Botany 2. Development and structure of bryophytes and vascular plants. Mr. Bennett

235. Plant Anatomy. I. 3 hr. PR: Botany 2 or equiv. Anatomy of seed plants. Miss Ammons

252. Lichenology. II. 3 hr. PR: Biol. 2 or Botany 2 or consent of Instr. Taxonomy, morphology and chemistry of lichens. Staff

255. Bryophytes. II. 2 hr. PR: Botany 2 or Biol. 2. Identification of liverworts and mosses. Miss Ammons

261. Advanced Systematic Botany. II. 3 hr. PR: Botany 161 or equiv. Taxonomy of pteridophytes, gymnosperms and monocotyledons. Mr. Clovis

262. Advanced Systematic Botany. I. 3 hr. PR: Botany 161 or equiv. Taxonomy of dicotyledons. Mr. Clovis

263. Taxonomy of Vascular Plants. S. 3 hr. Field studies in the taxonomy of higher plants. Mr. Bennett

265. Aquatic Seed Plants. I. 3 hr. PR: Biol. 2 or equivalent. Classification, ecology, and economic importance of aquatic seed plants. Offered in 1959-60 and alternate years thereafter. Mr. Bennett

266. Flora of W.Va. II, S. 3 hr. PR: Biol. 2 or equivalent. A consideration of the native plant life of the State. Mr. Core

273. Plant Physiology. I. 4 hr. PR: Biol. 2 or Botany 2, and Chem. 1 and 2, or equiv. Physico-chemical processes of plants. Mr. Baer

296, 297. Special Topics. I, II. 1-4 hr. per sem. PR: Approval of Instr. Critical studies of topics to be assigned by the instructor. Staff

Graduate Division

316. Cytotaxonomy. I. 3 hr. PR: Botany 2 or Biol. 2 and consent of Instr. The determination of phylogenetic relationships of cytological and taxonomic methods. Offered in 1959-60 and alternate years thereafter. Mr. Bennett

325. Experimental Ecology. II. 2-4 hr. PR: Biol. 1, Botany 161, and Botany 221 or equiv. Experiments on environmental relations of plants. Mr. Baer

331. Plant Embryology. I. 2 hr. PR: Biol. 2 or Botany 2 and consent of Instr. Gametogenesis, syngamy, and embryo development in vascular plants. Offered in 1960-61 and alternate years thereafter. Mr. Bennett

351, 352. Problems in Plant Taxonomy. I, II. 1-6 hr. PR: Botany 261, 262, or equiv. Staff

368. Agrostology. I. 2 hr. PR: Botany 161 or equiv. Taxonomy of grasses. Mr. Clovis

374. Advanced Plant Physiology. II. 2-3 hr. PR: Botany 273 or equiv., also courses in general physics and organic chemistry. Advanced studies of plant processes and physiological methods. Mr. Baer

391, 392, 393, 394. Research. I, II. 1-6 hr. Staff

ZOOLOGY

Lower Division

1, 2. General Zoology. I, II. 4 hr. Facts and principles fundamental to an understanding of invertebrate and vertebrate animals. Designed for premedical students and prospective majors. Students who have taken Biol. 1 or 2 may not register in this course. Mr. Taylor and Staff

31. Human Anatomy. I. 4 hr. General anatomy for nurses. Mr. Gribble

Upper Division

171. Human Physiology. II. 4 hr. An introductory course in the functions of man. Mr. Norman and Staff

210. Animal Behavior. I. 3 hr. PR: Zool. 2 or equiv. Principles of individual and group behavior. Offered in 1960-61 and alternate years thereafter. Mr. Taylor

221. Animal Ecology. I. 3 hr. PR: Zool. 2 or equiv. Relations between animals and their environment with emphasis on communities of living organisms. Offered in 1959-60 and alternate years thereafter. Mr. Taylor

222. Field Studies of Invertebrates. S. 3 hr. Taxonomy and ecology of the invertebrates. Mr. Birch

223. Field Studies of Vertebrates. S. 3 hr. Taxonomy and ecology of the vertebrates. Mr. Birch

224. Limnology. I. 4 hr. PR: Zool. 2 or equiv. Physical, chemical, and biological investigations of lakes and inland waters. Mr. Nelson

231. Comparative Anatomy. I. 5 hr. PR: Zool. 2 or equiv. Organs and systems of various vertebrates, together with other facts of interest concerning these animals. Mr. Gribble, Miss Schmieder, and Miss Montiegel

232. Vertebrate Embryology. II. 5 hr. PR: Zool. 2 or equiv. Introductory study of development of vertebrates, based on frogs, fowl, and mammals. Mr. Gribble, Miss Schmieder, and Miss Montiegel

233. Comparative Histology. II. 3 hr. PR: Zool. 231, 232. A comparative study of the tissues of the vertebrates. Miss Schmieder

235. Comparative Developmental Anatomy. II. 3 hr. PR: Zool. 231. Anatomy and development of the organs and systems of various vertebrates. Mr. Gribble

236. Comparative Neuroanatomy. II. 3 hr. PR: Zool. 2, 231. Comparative study of development and anatomy of the nervous systems of the vertebrates. Miss Montiegel

237. Osteology. I. 2 hr. PR: Zool. 2 or equiv. Development and anatomy of the skeleton. Miss Schmieder

250. Animal Systematics. I. 2 hr. PR: Zool. 2 or equiv. Principles and practices in animal taxonomy. Mr. Nelson

251. Invertebrate Zoology. I. 4 hr. PR: Zool. 2 or equiv. Advanced study of animals without backbones. Mr. Birch

255. Introduction to Human Parasitology. II. 4 hr. PR: Zool. 2 or equiv. Biological aspects of parasites and other animals of medical importance. Mr. Taylor

263. Ichthyology. II. 3 hr. PR: Zool. 2 or equiv. Ecology, life histories, taxonomy, and distribution of fishes. Offered in 1959-60 and alternate years. Mr. Nelson

264. Fisheries Biology. II. 4 hr. PR: Zool. 2 or equiv. Principles and techniques of fisheries management with an introduction to the theory of population. Offered 1960-61 and alternate years. Mr. Nelson

265. Ornithology. II. 3 hr. PR: Zool. 1 or equiv., consent of Instr. Field and laboratory studies on identification, migration, protection, nesting, and food habits of birds. Mr. Birch

271. Vertebrate Physiology. I. 4 hr. PR: Zool. 2 or equiv. The functions of domestic animals. Offered in 1960-61 and alternate years. Mr. Norman

272. Physiology of the Endocrines. I. 4 hr. PR: General Zool. or General Biol., comparative anatomy, and organic chemistry. Comparative physiology and endocrine mechanisms. The relation of hormonal and parahormonal agents to chemical coordination, metabolism, growth, development, and sex. Mr. Norman

273, 274. Cellular Physiology. I, II. 4 hr. per sem. PR: Biol. 2 or Zool. 2; Chem. 238 and Physics 2. A consideration of the functions common to all forms of living matter. Mr. Norman

275. The Machinery of the Human Body. S. 4 hr. A survey of the principles of human physiology; primarily for those preparing to teach high school biology. Mr. Norman

276. Comparative Physiology. II. 4 hr. PR: Zool. 273 or equiv. A study of the diverse ways in which different kinds of animals meet their functional requirements. Mr. Goldberg

Graduate Division

331. Mammalian Anatomy. S. 3 hr. PR: Zoology 231, 232, 233, 235, 236 and 237 and consent of instructor. The study of the anatomy of selected animals from the regional and sectional approach. Offered 1961 and every third year. Mr. Gribble

332. Anatomy of the Integument. I. 2 hr. PR: Zoology 231, 232, 233, 234 and 235 and consent of instructor. An advanced study of the gross, developmental, comparative, and microscopic anatomy of the integument and its derivatives. Offered 1961-62 and every third year. Mr. Gribble

334. Anatomy of the Circulatory and Respiratory Systems. II. 3 hr. PR: Zoology 231, 232, 235 and consent of instructor. An advanced study of the gross, developmental, and comparative anatomy of the circulatory and respiratory systems. Offered 1961-62 and every third year. Mr. Gribble

335. Anatomy of the Urogenital System. I. 3 hr. PR: Zoology 231, 232, and 235 and consent of Instructor. An advanced study of the gross, developmental and comparative anatomy of the genital and urinary systems. Offered 1959-60 and every third year. Mr. Gribble

336. Advanced Comparative Neuroanatomy. II. 3 hr. PR: Zoology 231, 232, 233 and 236 and consent of instructor. An advanced study of the gross, microscopic, developmental and comparative anatomy of the nervous system. Offered 1959-60 and every third year. Mr. Gribble

337. Advanced Osteology. S. 3 hr. PR: Zool. 231 and 237 and consent of Instr. The study of the gross, microscopic, developmental, and comparative anatomy of the skeleton. Offered in 1959 and every third year. Mr. Gribble

338. Analogies and Homologies. I. 3 hr. PR: Zoology 231, 232, 233, 235, 236, 237, 331, 334, 336, and 337 and consent of Instr. A detailed study of the analogies and homologies as found in the vertebrates. Offered 1960-61 and every third year. Mr. Gribble

339. Anomalies and Variations. II. 3 hr. PR: Zoology 231, 232, 233, 235, 236, 237, 331, 334, 335, 336, 337, and 338, and consent of instructor. A detailed study of the types, causes, results and frequency of vertebrate anatomical and developmental anomalies and variations. Offered in 1960-61 and every third year. Mr. Gribble

351. Advanced Invertebrate Zoology. I, II. 1-4 hr. PR: Zoology 251 and consent. Mr. Birch

391, 392, 393, 394. Research. I, II. 1-6 hr. Staff

396, 397. Special Topics. I, II. 1-3 hr. per semester. Critical studies of topics to be determined according to the student's requirements. Staff

CHEMISTRY

Professors Lazzell, Collett, Gibson, and J. L. Hall; Associate Professors G. A. Hall, Highman, Humphrey, and Muth; Assistant Professors Compere, Graybeal, Paul, and Wilhelm; Instructors Dean, Ellers, Pacofsky, and Popovich.

Chemistry 1 and 2 are prerequisite to all other courses in chemistry. Chemistry 5, 6, 233, 238, 260 and 261; Mathematics[8] 107 and 108; minimum one year of physics[9] are required of students who major in chemistry.

A deposit is required of all students who take laboratory courses.

BACHELOR OF ARTS IN CHEMISTRY

The Bachelor of Arts Degree is recommended for those students who are interested in a scientific program which offers opportunity for a considerable body of electives in the non-science fields. This program is recommended for those students who plan to teach in the secondary school. For these students careful planning with the adviser must be done early in the program so that the teacher certification requirements may be met. The requirements are listed below and total 128 credit hours, of which 124 hours are in subjects exclusive of credit earned in required Physical Education, required Military Science and Tactics or Air Science, and English 0.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 1	4	Chem. 2	4
English 1	3	English 2	3
Math. 3	3	Math. 4	3
Foreign language	3	Foreign language	3
Phys. Educ. 1	1	Phys. Educ. 2	1
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2
	16		16

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 5	4	Chem. 6	5
Math. 5	4	Math. 107	4
Foreign language	3	Foreign language	3
Group 2 Electives	3	Group 2 Electives	3
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
	16		17

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 233	5	Chem. 238	5
Math. 108	4	Physics 112	5
Group 1 elect.	3-4	Group 1 elect.	3-4
Physics 111	5	Speech 11	3
	17 or 18		16 or 17

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 260	5	Chem. 261	5
Chem. Elect.	2	Chem. Elect.	2
Other Electives	11	Other electives	11
	18		18

BACHELOR OF SCIENCE IN CHEMISTRY

The Bachelor of Science degree is designed for those students who desire to qualify for professional positions in industry and government services, as well as those who plan to do graduate work in chemistry. Requirements for the Bachelor of Science Degree are listed below. Electives must be chosen so as to satisfy the distribution of electives required for the A.B. degree. A total of 136 credit hours are required.

[8]If mathematics is elected as a minor, an additional 3-hour course beyond calculus (usually Differential Equations) is required.

[9]Physics 111 and 112 count as a minor. If Physics 1 and 2 are offered, nine additional upper-division hours in physics are required to satisfy the minor

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 1	4	Chem. 2	4
English 1	3	English 2	3
Foreign language	3	Math. 4	3
Math. 3	3	Foreign language	3
Phys. Educ. 1	1	Electives	2
Mil. or Air Sci. 1	2	Phys. Educ. 2	1
		Mil. or Air Sci. 2	2
	16		18

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 5	4	Chem. 6	5
Math. 5	4	Math. 107	4
Foreign lang.*	3	Foreign language	3
Other Electives	4	Other Electives	4
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
	17		18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 233	5	Chem. 238	5
Math. 108	4	Physics 112	5
Physics 111	5	Chem. Elect.	2
Ch. Engr. 200	2	Other Electives	4
Chem. Elect.	2		
	18		16

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 260	5	Chem. 261	5
Ch. Engr. 234	2	Ch. Engr. 235	2
Chem. Elect.	4	Chem. Elect.	4
Other Electives	6	Other Electives	5
	17		16

*Six hours of a second foreign language in addition to the language requirements for the A.B. degree are necessary for graduation.

Courses of Instruction[10]

Lower Division

1. Inorganic Chemistry. I, II. 4 hr. Required of all students whose work calls for the first year of chemistry. Elective for others. Primarily for freshmen. Staff

2. Inorganic Chemistry. I, II. 4 hr. PR: Chem. 1. Required of all students whose work calls for first year of chemistry. Elective for others. Primarily for freshmen. Staff

5 or 105. Qualitative Analysis. I. 4 hr. PR. Chem. 2. Required of students whose major is chemistry, and pharmacy students. 2 lect. and 2 3-hour lab. periods. Mr. Gibson and Miss Paul

6 or 106. Quantitative Analysis. II. 4-5 hr. PR: Chem. 2. Chem. 5 should precede this course wherever possible. Required of students whose major is chemistry. Mr. Gibson and Mr. Humphrey

10. Quantitative Analysis. I. 2 hr. PR: Chem. 2. Primarily for engineering students. Mr. Humphrey and Mr. Wilhelm

15 or 115. Quantitative Analysis. I, II. 3 hr. PR: Chem. 2. For premedical, chemical engineering and pharmacy students. Mr. Humphrey and Mr. Wilhelm

31 or 131. Organic Chemistry. I. 4 hr. PR: Chem. 2. For students in agriculture and home economics. Mr. Compere and Mr. Muth

63 or 163. Physical Chemistry. I. 4 hr. PR: Chem. 2. Required of premedical students and recommended for geology majors and non-chemistry majors. Mr. G. A. Hall

Upper Division

141, 143. Assigned Topics. I. 1-5 hr. PR: Approval of instructor. Staff

142, 144. Assigned Topics. II. 1-5 hr. PR: Approval of instructor. Staff

162. The Chemistry of Colloids. II. 3 hr. PR: Chem. 115 or equivalent. Mr. G. A. Hall

170. Glass Working for the Chemical Laboratory. II. 2 hr. PR: Chemistry major or consent. Mr. Graybeal

[10]Chemistry 1 and 2 are prerequisite to all other courses in chemistry. Three-year and four-year premedical students are referred to page 25 for outline of required courses. For courses in biochemistry and pharmaceutical chemistry see the **Announcements of the School of Medicine,** or the **University Catalog.**

201. Intermediate Inorganic Chemistry. I. 3 hr. PR: Chem. 6 or 106. Mr. Wilhelm

208. Quantitative Analysis. I. 3 hr. PR: Chem. 6 (5 hr.), Physics 2 or 112, Math. 5. Mr. Gibson

211. Intermediate Inorganic Lectures. S. 2 hr. PR: 12 hr. of chemistry. Selected topics of modern inorganic chemistry. Offered in 1959 and alternate years. Not for science majors. Staff

212. Intermediate Inorganic Laboratory. S. 2 hr. PR: Chem. 211. Laboratory technique to illustrate material covered in Chem. 211. Offered in 1960 and alternate years. Not for science majors. Staff

214. Qualitative Organic Analysis. I. 3 hr. PR: Chem. 238. Mr. Muth

215. Quantitative Organic Analysis. II. 3 hr. PR: Chem. 238. Mr. Muth

233. Organic Chemistry. I, II. 4-5 hr. PR: Chem. 6 or 15. Required of students who major in chemistry, pre-med., chemical and mining engineering Mr. Lazzell and Mr. Muth

238. Organic Chemistry. I, II. 4-5 hr. PR: Chem. 233. Mr. Lazzell and Mr. Muth

247. Stereochemistry. I. 2 hr. Open to seniors. PR: Chem. 238. Mr. Compere

260. Physical Chemistry. I. 4-5 hr. PR: Chem. 233, Physics 2 or 112 and Math. 108. Required of chemistry majors and chemical engineering students, the latter for 4 hours credit. Mr. Collett and Mr. G. A. Hall

261. Physical Chemistry. II. 4-5 hr. PR: Chem. 260. Required of chemcial engineering students and chemistry majors. Mr. Collett and Mr. G. A. Hall

273. Chemical Literature. I, II. 2 hr. PR: Chem. 6 and 238. Open to seniors. Mr. Hickman

274. History of Chemistry. II. 2 hr. PR: Chem. 6 or equiv., and organic chemistry. Miss Paul

275. Workshop in Chemistry, Inorganic. S. 2 hr. PR: 12 hr. of chemistry. Primarily a refresher course for high school teachers. Not for science majors. Offered in 1960 and alternate years. Staff

276. Workshop in Chemistry, Organic. S. 2 hr. PR: 4 hr. of organic chemistry. A refresher course primarily for high school teachers. Not for science majors. Offered in 1961 and alternate years. Staff

277. Synthetic Drugs. I or II. 2 hr. PR: Chem. 238 or equiv. Staff

278. Modern Chemical Principles. I. 2 hr. PR: Chem. 2 or equiv. Staff

279. Modern Chemical Principles. II. 2 hr. PR: Chem. 2 or equiv. Staff

285. Nuclear Chemistry. II. 3 hr. PR: Chem. 2, Math. 107. Mr. Wilhelm

Graduate Division

301. Advanced Inorganic Chemistry. I. 3 hr. PR: Chem. 261. Mr. Hickman

302. Advanced Inorganic Chemistry. II. 3 hr. PR: Chem. 301. Mr. Hickman

317. Modern Plastics. I or II. 3 hr. Mr. Muth

343. Advanced Organic Chemistry. I. 4 hr. PR: Chem. 238 or equiv. Mr. Muth and Mr. Lazzell

345. Theories of Organic Chemistry. II. 2 hr. PR: Chem. 343. Mr. Muth

350. Heterocyclic Chemistry. II. 2 hr. PR: Chem. 343. Mr. Muth

367. Advanced Physical Chemistry. II. 2-4 hr. PR: Chem. 261. Mr. J. L. Hall

368. Advanced Physical Chemistry. I. 2 hr. PR: Chem. 367. Mr. J. L. Hall

369. Chemical Kinetics. I or II. 2 hr. PR: Chem. 261. Mr. G. A. Hall

380. Electrochemistry. I or II. 3 hr. PR: Chem. 238, 261. Mr. Collett

383. Advanced Quantitative Analysis. I or II. 3 hr. PR: Chem. 280, 238, 261. Mr. Gibson

388. Valence and Molecular Structure.[11] I or II. 2 hr. PR: Math. 108, Physics 112, Chem. 261. Mr. Gibson

389. Chemical Thermodynamics.[12] I. 2 hr. PR: Chem. 261 and Math. 108. Mr. Gibson

390. Chemical Thermodynamics.[12] II. 2 hr. Continuation of Chem. 389. Mr. Gibson

391, 392. Journal Meeting and Seminar. I, II. 1 hr. per sem. Required of students working for graduate degrees with major in chemistry. Recommended as a minor for students from other departments. Staff

395, 396. Special Topics. I, II. 1-3 hr. per sem. Chemistry of the carbohydrates, the phase rule, dyes and dye intermediates, food analysis, chemical microscopy, crystallography, coordination compounds, unfamiliar oxidation states, inorganic polymers, inorganic preparations, microwave and radio-frequency spectroscopy, and quantum mechanics are suggested topics. Staff

397, 398, 399. Research. I, II. 1-10 hr. Six hours required for the Master's Degree. Staff

CLASSICS

Professor Brouzas

The Department of Classics offers courses in the Greek and Latin languages and in classical civilization. Courses in the department are intended not only to give students a thorough knowledge of the Greek and Latin languages and literatures but also to acquaint them with the classical culture in general.

Courses suggested are for Classics majors with English as a second teaching subject. Those wishing to offer a modern language as a second teaching subject may substitute the modern language for the English beginning with the Sophomore year; those who wish to offer Social Studies may substitute History, etc. for the same English.

Women can qualify for a teacher's certificate and graduate with 129 hours; men with 135 hours.

Students who do not plan to teach can substitute electives for the Education courses and graduate with 128 hours, of which 124 hours are exclusive of required Physical Education, required Military Science and Tactics or Air Science, and English 0.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3
Latin 3	3	Latin 4	3
Laboratory Sci.	4	Laboratory Sci.	4
Humanities 1	4	Humanities 2	4
Phys. Educ.	1	Phys. Educ.	1
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2
	16-17		16-17

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Hist. 2 or 52	3	Hist. 2 or 53	3
Latin 12	3	Latin 22	3
Social Sci. 1	4	Social Sci. 2	4
Educ. 105	3	Educ. 106	3
Art Appreciation 30	2	Music Appreciation	2
Phys. Educ.	1	Phys. Educ.	1
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
	16-17		16-17

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 18	3	English Lit.	3
Latin	6	Latin	6
Educ.	3	Educ.	3
Greek 1	3	Greek 2	3
Health Educ.	2	Lib. Sci. or Speech	3
	17		18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English	6	English	6
Latin	6	Latin	3
Educ.	3	Educ.	6
Philosophy	3		
	18		15

[11]Offered in alternate years, available in 1960-61.
[12]Offered in alternate years, available in 1959-60.

Courses of Instruction

Lower Division

1. Elementary Latin. I. 3 hr. Elements of the Latin language. Completion of a standard beginner's book.

2. Elementary Latin. II. 3 hr. Continuation of Latin 1, consisting of study of a standard second-year book.

3. Intermediate Latin. I. 3 hr. PR: Latin 2 or two units of high-school Latin. Selections from Caesar, Aulus Gellius, Nepos, and from other authors of comparable ease, designed to prepare students to read orations of Cicero and other Latin of similar difficulty.

4. Cicero's Orations. II. 3 hr. PR: Latin 3, or 2 units of high-school Latin.

5. Latin for Law Students: Selections from Legal Latin and the Institutes of Justinian. II. 3 hr. PR: Latin 3 or 2 units of high-school Latin.

12. Selections from Roman Prose. I. 3 hr. PR: Latin 4 and 6 or equiv. Cato to the end of the Silver Latin Period.

21. Roman Letterwriting. I. 3 hr. PR: Latin 4 and 12, or 4 units of high-school Latin.

22. Selections from Roman Poetry. II. 3 hr. PR: Latin 4 and 12, or equiv. Selection from the elegiac, lyric, and iambic poets and from Martial's epigrams.

Upper Division

101. Classical Myths in the Modern World. I. 2 hr. PR: None. This course given entirely in English and assuming no knowledge of Greek or Latin, introduces the student to classical myths of gods and legends of heroes and their influence upon the modern world of thought and science, including such fields as language, literature, music, painting, sculpture, and the theater. Illustrated with photographs, lantern slides, casts, and quotations from classical authors in English.

102. Classical Culture and the Modern World. II. 2 hr. PR: None. This course, like Classics 101, is given entirely in English and introduces the student to classical life and thought through selected phases of the following topics of Greek and Roman civilization that we find still vital today: daily life and customs, art, law, literature, science, and the influence of these upon present day life and thought. Illustrated with pictures, slides, casts, and quotations from classical authors in English. This course may be taken independently, but does not repeat the material covered in Classics 101, and is designed to follow it.

121. Honors Course. II. 3 hr. PR: Second semester of junior year with major in Classics; recommendation by the head of the department. Wide supervised reading in the Greek Poets, Historians, Orators, and Philosophers.

122. Honors Course. I. 3 hr. PR: Classics 121. Wide supervised reading in the Roman Poets, Historians, Orators, and Philosophers.

123. Honors Course. II. 3 hr. PR: Classics 122. A thesis embodying the results of the reading in classics 121 and 122.

201. The Story and Novel. I. 3 hr. PR: Latin 12, 22, or equiv. The origin of the story and novel is traced from Homer to the Medieval Greek and Latin romance writers. Selections from Petronius, the Cena Trimalchionis, and from Apuleius, Cupid and Psyche.

202. Drama. II. 3 hr. PR: 12, 22, or equiv. A brief history of the origin and development of Greek and Roman drama. The Menaechmi of Plautus, the Andria of Terence, and the Medea of Seneca are read in Latin.

203. Oratory. II. 3 hr. PR: Latin 12, 22, or equiv. A bird's eye view of Greek and Roman oratory is given and part of the first book of Cicero's DeOratore; selections from Quintilian's Institutes and from Tacitus' Dialogus de Oratoribus are read in Latin.

227. Vulgar Latin—Prose and Verse. I. 3 hr. PR: Latin 12, 22, or equiv. Selections from Latin inscriptions with a view of studying the development of the Latin language from its earliest times, also selections from medieval and later Latin writers are read which show the passing of the Latin language into the Romance languages.

231. Satire. II. 3 hr. PR: Latin 12, 22, or equiv. Greek satirical writings and the origin of the Roman satire. Selections in Latin from the Satires and Epistles of Horace, and from the Satires of Persius and Juvenal.

234. History. I. 3 hr. PR: Latin 12, 22, or equiv. The origin and development of Roman historiography and its Greek antecedents. Selections in Latin from Livy's History, from Tactius' Agricola, and from Suetonius' Julius Caesar.

235. Epic. I. 3 hr. PR: Latin 12, 22, or equiv. The origin and development of the Greek and Roman epic. Selections from Vergil's Aeneid, from Lucretis' De Rerum Natura, and from the earlier and later epic poets in Latin.

236. Philosophy. II. 3 hr. PR: Latin 12, 22, or equiv. The origin and development of Greek Philosophy and its influence upon Roman philosophy. Selections from Cicero's Tusculan Disputations in the immortality of the soul and from Seneca's Epistles in Latin.

Graduate Division

381, 382. Seminar. Introduction to Research. I, II. 3 hr. each sem. PR: at least three courses of upper division Latin, or equiv. Methods of textual, literary, and historical criticism. Evaluation of text, sources, and background of an author, whose principal work is studied and analyzed.

383, 384. Thesis. I, II. 3 hr. each sem. Six hours of credit are allowed for a thesis, required for the degree of Master of Arts in the department. A controversial subject, or a little explored subject is usually assigned, intended not only to acquaint students with the subject-matter and to develop the various sides of research method but also to produce a creditable piece of research.

GREEK

Lower Division

1. Elementary Greek. I. 3 hr. A course in the elements of the Greek language.

2. Selections from Greek Literature (Prose). II. 3 hr.

3. Selections from Greek Literature (Poetry). I. 3 hr.

4. Selections from Hellenistic and Biblical Greek Literature. II. 3 hr.

5. Selections from Medieval and Modern Greek Literature. I. 3 hr.

6. Selections from the Attic Orators. II. 3 hr.

ECONOMICS

Professors Coleman, Campbell, L. Fishman, Roberts, and Thompson; Associate Professor Alvis; Assistant Professors Gavett, Herrnstadt, and Newhouse; Lecturer B. Fishman; Instructors Buchanan and Wade.

In September, 1952, the Department of Economics and Business Administration in the College of Arts and Sciences was replaced by the College of Commerce. Since its establishment, the College of Commerce, has granted the B.S. degree in Economics, while the College of Arts and Sciences has continued to grant the A.B. degree in this field.

A brief explanation of the differences between the B.S. and A.B. program in Economics may be helpful to prospective Economics majors. The course of study leading to the B.S. degree is aimed primarily at preparing the student for a career in business. Consequently, the student selecting this program is required to complete courses in accounting, business writing, and business finance, and must take about

one-half of his elective courses with the College of Commerce. The program leading to the A.B. degree is designed for students who wish to combine fundamental training in economics with broad, general training in other fields. Thirty or more credit hours, from a total of the 128 required for graduation, are available for elective subjects. There are two principal requirements which apply to the A.B. program in economics, but do not apply to the B.S. program. These are the requirements that the student must complete twelve hours in a foreign language, and nine upper-division hours in a minor field other than economics.

A candidate for the A.B. degree with a major in Economics must complete a minimum of 128 semester hours for graduation, exclusive of required Physical Education, required Military Science and Tactics and Air Science, and English 0. He must also complete at least 24 semester hours in upper-division economics courses. A minimum of 58 semester hours must be completed at the upper-division level. Of these, not less than 9 upper-division hours must be earned in a minor field approved by the candidate's adviser.

Lower-Division Program. The curriculum of the lower division is designed to provide a background for the study of Economics. The following courses are required and students are expected to complete them within the first two years of residence at the University.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	Econ. 1	3	Econ. 2	3
Foreign Lang.[13]	3	Foreign Lang.[13]	3	Foreign Lang.	3	Foreign Lang.	3
Group 1 elect.	3-4	Group 1 elect.	3-4	Pol. Sci. 2 or Hist. 52	3	Pol. Sci. 120 or Hist. 53	3
Laboratory Sci.[14]	4	Laboratory Sci.[14]	4	Elective	3	Public Speaking 11	3
Phys. Educ.	1	Phys. Educ.	1	Math. 8	3	Elective	3
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2	Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
	16 or 17		16 or 17		17		17

Upper-Division Program. The following courses are required of all Economics majors:

Econ. 111. Money and Banking

Econ. 115. Labor Problems

Econ. 125. Statistics

Econ. 221. Economic Theory

Econ. 222. History of Economic Thought

In addition to the above courses, candidates must complete a minmium of 9 upper-division hours in Economics.

Courses of Instruction

Lower Division

1. Principles of Economics. I, II. 3 hr. Organization and principles of economic activity. Freshmen are not admitted to Economics 1 and 2. Staff

2. Principles of Economics. I, II. 3 hr. PR: Econ. 1. Economics 1 and 2 are prerequisite to all upper-division courses. Staff

Upper Division

111. Money and Banking. I, II. 3 hr. Our system of monetary and banking arrangements, viewed in relation to functioning of the economic system as a whole. Mr. Fishman

[13]See language requirements for College of Arts and Sciences.

[14]A laboratory science may be chosen from biology, chemistry, physics, botany, zoology, psychology, geology, or physical science.

115. Labor Problems. I, II. An introduction to labor economics and labor relations in industry, including the interaction of economic forces, union policies, personel practices and labor law. Mr. Gavett and Mr. Herrnstadt

119. Economics of Consumption. I. 3 hr. Economic and social problems involved in consumer choices. Staff

125. Statistics. I, II. 3 hr. PR: Math. 2, 3 or 8. Methods of collecting, presenting, analyzing, and interpreting business data, with special emphasis on the analysis of frequency distribution, trend fitting, seasonal corrections, forecasting, and index numbers. A two-hour laboratory session is required in this course. Mrs. Fishman

205. Current Economic Problems. S. 3 hr. PR: Econ. 1 and 2 or consent of Instr. For students in Education only. A course designed to acquaint public school teachers with reliable source material in economics and to instruct them in studying current economic problems. Mr. Campbell

209. Problems in Economics. I, II. 1-3 hr. Staff

210. Comparative Economic Systems. II. 3 hr. Structure and processes of existing economic systems throughout the world, including review of basic principles of free enterprise, socialistic, communistic, and fascistic societies. Comprehensive analysis based on current and recent experiments in these economies. Mr. Thompson

217. Trade Unionism. 3 hr. PR: Econ. 115 or consent of Instr. An analysis of the structure, government, attitudes, and policies of organized labor; the implications of union policy. Mr. Gavett

218. Collective Bargaining. II. 3 hr. PR: Econ. 115 or consent of Instr. Theory and practice in collective bargaining; including contract issues, types of relationships and the role of government policy. Mr. Gavett and Mr. Herrnstadt

219. The Economics of Wages and the Labor Market. II. 3 hr. PR: Econ. 115 or consent of Instr. Determination of wage levels and structure; the functioning and organization of labor markets. Mr. Gavett and Mr. Herrnstadt

221. Economic Theory. I. 3 hr. Training and experience in use of analytical methods and techniques needed in dealing with fundamental economic problems. Mr. Thompson

222. History of Economic Thought. II. 3 hr. Economic ideas in perspective of historic development. Mr. Thompson

225. Transportation. I. 3 hr. Develpoment of an inland transportation system and relations and policies of transport agencies. Mr. Campbell

230. Public Utilities. II. 3 hr. Development of regulation; economics of valuation and rate making. Mr. Campbell

235. Economic Growth and Business Cycles. I. 3 hr. PR: Econ. 125, or consent of Instr. Industrial fluctuations; causes and possible remedies. Mr. Fishman

241. Public Finance. I. 3 hr. Governmental fiscal organizations and policy; taxes and tax systems with particular emphasis upon the Federal Government and the State of West Virginia. Mr. Alvis

245. Government and Business. II. 3 hr. Government in its role of adviser and umpire; analysis of governmental policies and practices affecting business. Mr. Newhouse

250. International Trade. II. 3 hr. PR: Consent of Instr. Development of trade among nations; theories of trade; policies; physical factors; trends; and barriers. Mr. Alvis

256. Advanced Statistics. II. 3 hr. PR: Econ. 125 or equiv. Correlation, index numbers, time series, analysis, statistical inference, and population forecasting. Mrs. Fishman

310. Contemporary Economics Theory. II. 3 hr. PR: Econ. 221. Recent developments in economic theory such as those relating to imperfect competition, monetary problems, and collectivist economy. Staff

315. Bibliography and Research. I. 2 hr. Sources of information, research procedures; analysis and interpretation of data; preparation of manuscripts. Mr. Coleman

319. Seminar in Economics. II. 2 hr. Mr. Fishman

331, 332. Thesis. I, II. 2 or 3 hr. Staff

ENGLISH LANGUAGE AND LITERATURE

Professor Brawner, Bishop, Crocker, Draper, Foster, and Gainer; Associate Professors Mockler and Pettigrew; Assistant Professor Page; Instructors Board, Bonar, Buswell, Carb, Chambliss, Dawson, Dowdell, Futrell, Gaskins, Gilchrist, Hicks, Holden, Howard, Huzzey, Johnson, Johnston, Jones, Landon, Law, Leonian, Lyttle, McLaughlin, O'Donnell, Patterson, Sasser, Stansy, Thompson, and Tower.

A student who expects to major in English should complete lower-division survey courses in English and American literature (English 3, 4, 5, and 6). These courses, however, are not absolute prerequisites to entrance into the program of major studies in English. If a student who is accepted as a major has not had the lower-division survey courses, he will be expected to compensate for this deficiency by taking certain upper-division courses that will be suggested by the departmental adviser.

Advisers of upper-division students who are not English majors may schedule them for English courses in the "100" series without regard to prerequisites. In order to qualify for registration in a course in the "200" series, however, a student is expected to have had prior work in upper-division courses.

Teacher Certification for English Majors

A student may take the A.B. degree in the College of Arts and Sciences with major in English and at the same time qualify for teacher certification. In general, such a student will satisfy the requirements for the first teaching field in English while completing courses for his major. His second teaching field will be correlated with his minor subject in Arts and Sciences. He will complete 20 hours of prescribed courses in Education. The second teaching field for English teachers may be Speech, Library Science, Art, French, Spanish, German, Latin, or Social Studies. Other combinations are possible.

During the first two years, the courses chosen are largely governed by the basic two-year program required of all candidates for teacher certification. See the University bulletin entitled *"Teacher Training Programs."* These requirements generally satisfy the group or "distribution" requirements of Arts and Sciences.

By carefully planning his program, a student may complete all requirements for the A.B. degree and for teacher certification within four years. Copies of a mimeographed summary of all requirements in the combined program are available at the English office.

Choice of Two Majors in English

The prescribed upper-division program for majors in English requires the student to complete courses in both English literature and American literature and allows him to determine the relative emphasis he will give to each. Three upper-division courses (Group "A") are required of all majors. Credit for this group is either 8 or 9 hours. An additional twelve hours is chosen from groups "B" and "C" according to the student's desire to emphasize English literature or American literature. The plan is shown as follows:

GROUP A (8-9 hr., required of all English majors):

1. English 142. Shakespeare. 3 hr.
2. English 234. Chaucer. 3 hr.
3. English 230. History of the English Language, 3 hr.; or
   English 127. The American Language. 2 hr.

Choice of twelve additional hours of upper-division work, as follows:

Emphasis on English Literature: 9 hr. from Group B, 3 hr. from Group C.
Emphasis on American Literature: 3 hr. from Group B, 9 hr. from Group C.

GROUP B:

1. English 166. American Fiction. 3 hr.
2. English 139. English Literature, 1744-1798. 3 hr.
3. English 140. Elizabethan Poetry and Prose. 3 hr.
4. English 141. Literature of the 17th Century. 3 hr.
5. English 249. The Romantic Movement. 3 hr.
6. English 257. Victorian Poetry. 3 hr.
7. English 258. Victorian Prose. 3 hr.

GROUP C:

1. English 166. American Fiction. 3 hr.
2. English 222. American Biography. 3 hr.
3. English 239. Southern Writers. 3 hr.
4. English 250. American Romanticism. 3 hr.
5. English 270. American Poetry. 3 hr.

English majors are strongly advised to study a second foreign language and to take courses in English and American history, particularly History 133 and 134. The only reason these recommendations are not made as requirements is that the program of some majors, particularly those in the teacher-training curriculum, will not allow the time for them.

Suggested Semester Programs

Lower Division

The following lower-division course programs are suggested for pre-English majors. The "electives" refer to groups 1, 2, 4, and 5 or "Distribution Requirements" in Arts and Sciences, and the numbers refer to these groups. The footnotes indicate choices that should be made by teacher trainees in order to combine these requirements with those of the teacher-training curriculum.

FIRST YEAR*				SECOND YEAR*			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	English 3 or 5	3	English 4 or 6	3
English 3 or 5	3	English 4 or 6	3	Foreign Lang.	3	Foreign Lang.	3
Laboratory Sci.	4	Laboratory Sci.	4	Electives (Groups		Electives (Groups	
Foreign Lang.	3	Foreign Lang.	3	2, 4, 5)	9-11	2, 4, 5)	9-11
Hist. or		Hist. or		Phys. Educ.	1	Phys. Educ.	1
Humanities	3-4	Humanities	3-4	Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Phys. Educ.	1	Mil. or Air Sci. 2	2				
Mil. or Air Sci. 1	2	Phys. Educ.	1				
	17-19		17-19		17-19		17-19

***Special Note for Students Preparing for Teacher Certification:**
For the science requirement, choose the general course in Biology or in Physical Science. To satisfy Arts and Sciences Group 4, choose Speech 3, 6, 11, or 29. For Group 2, take Social Sci. 1 and 2. Other courses to work into your program as early as possible are Music 10 and Art 30 or 130, although Art 130 may be postponed and taken for upper-division credit. If your second field is to be Social Studies, you may postpone satisfying Arts and Sciences Group 5, and take Geography as upper-division credit. In the last semester of your second year take Educ. 105. For guidance in all these matters, study the bulletin **"Teacher Training Programs."**

Upper Division

THIRD YEAR**				FOURTH YEAR**			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 142	3	Upper-division		English 234	3	English 230	3
English (Groups		English B or C	3	English (from		English (from	
B or C, above)	3	Minor Subject	3-6	group B or C)	3	group B or C)	3
Minor Subject	3	Electives	8-12	Minor Subject	3	Minor Subject	3
Electives	8-10			Electives	9	Electives	9
	17-19		17-19		18		18

*See page 162.

Courses of Instruction

Lower Division

0. English Composition. I, II. 3 hr. Required of all students who fail to qualify for English 1 on the Freshman English placement test. Staff

1. Composition and Rhetoric. I, II. 3 hr. Required of all candidates for the bachelor's degree in all colleges. Advanced sections are provided for students who make exceptionally high grades on the Freshman English placement test. Staff

2. Composition and Rhetoric. I, II. 3 hr. Continuation of English 1. Required of all candidates for the Bachelor's Degree in all colleges. Advanced sections are provided for students who make exceptionally high grades on the Freshman English placement tests. Staff

3. Survey: English Literature. I, II. 3 hr. English authors from Beowulf to Burns and readings from their works. Upperclassmen may substitute English 163 for this course. Staff

4. Survey: English Literature. I, II. 3 hr. English authors from Robert Burns to the present and readings from their works. Upperclassmen may substitute English 164 for this course. Staff

5. American Literature. I, II. 3 hr. American authors to 1870 with readings from their works. Staff

6. American Literature. I, II. 3 hr. American poetry and prose from 1870 to the present. Continuation of English 5. Staff

13. Expository Writing. I, II. 2 hr. PR: English 1 and 2. Extensive practice in the various types of expository writing, together with the study of techniques. Staff

16. Creative Writing I. Description. I, II. 3 hr. Exercises in the descriptive process; the practical and aesthetic values of description. Staff

17. Creative Writing II. Narration. I, II. 3 hr. The elements of narration; point of view, motivation, and the presentation of character in short narratives; individual assignments and conferences. Staff

18. Advanced English Composition (Written and Spoken). I, II. 3 hr. PR: English 1 and 2. Practice in the organization of thought and in the correct and effective use of the language in writing and speaking, with emphasis on the various types and techniques of exposition. Staff

21. The Use of Language. II. 3 hr. PR: English 1 and 2. Practice in the communication skills of a level more advanced than freshman study. Study of the nature of language and its relation to meaning in thought and action. Staff

23. Business English. I, II. 3 hr. PR: English 1 and 2. For majors in Economics and Business Administration. The writing of reports; assembling and analysis of data; business correspondence. Staff

25. Introduction to Poetry. I, II. 2 hr. PR: none. A nontechnical approach to poems selected for their intrinsic interest and ease of comprehension. Designed to instruct and give pleasures. Staff

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**For those preparing for teacher certification, the hours allowed for "electives" will be devoted to satisfying the requirements for certification. The requirements that must be satisfied are as follows:

(a) Any courses in the two-year general program for teachers that may not have been taken during the student's lower-division years. Check especially for English 18; Hist. 1 and 2 or Humanities 1 and 2; Social Sci. 1, 2; Music 10; Art 30; Health Educ. 101.

(b) Certain specific requirements for the English first teaching field, if not already met: Speech 3, 6, 11, or 29; 5 to 6 hr. additional, chosen from Journ. 215 (2 hr.), Libr. Sci. 1 or 101, (3 hr.), Speech 162 (3 hr.)

(c) Requirements of a second teaching field, insofar as they do not coincide with the student's Arts and Science minor.

(d) Twenty hours of Education, including practice teaching.

26. Introduction to Fiction. I, II. 2 hr. PR: none. A companion course to English 25 and English 27 in the reading of works of fiction selected for their interest and significance to the general reader. Emphasis on appreciation and enjoyment. Staff

27. Introduction to Drama. I, II. 2 hr. PR: none. How to read, enjoy, and judge significant plays. Designed for the general student, not the specialist, with a view to developing a lasting interest in dramatic literature. Staff

Upper Division

115. Creative Writing III: Narration (Short Story). II. 2 hr. Purpose and pattern of the modern short story; study of examples in the current periodicals; special assignments and conferences with individual students on a minimum number of short stories. Staff

125. Advanced Composition. I. 3 hr. The forms and techniques of expository writing, designed primarily for students in non-technical fields. Staff

126. Advanced Composition. I, II. 3 hr. Technical forms of writing; designed particularly for students in science and engineering. Mrs. Buswell and Staff

127. The American Language. I. 2 hr. Words and their ways in American speech. Mr. Mockler

129. Words and Usage. II. 3 hr. A practical course in vocabulary building and in English grammar and usage. Attention is given to the derivation, history, and meaning of words, and to the principles of syntax and grammar. Mr. Howard and Staff

138. English Literature, 1660-1744. I. 3 hr. A study of the literature from the Restoration to the death of Pope, exclusive of the drama. Mr. Crocker

139. English Literature, 1744-1798. I. 3 hr. A study of the literature from the death of Pope to the publication of Wordworth's *Lyrical Ballads,* exclusive of the drama. Mr. Crocker

140. Elizabeth Poetry and Prose. I. 3 hr. A study of the Renaissance in England as manifested in the great variety of nondramatic literary works of the sixteenth century, with emphasis on the major writers of the reign of Elizabeth. Mr. Draper and Mr. Foster

141. Literature of 17th Century. II. 3 hr. A consideration of the major poets and prose writers of the 17th century, with the exception of dramatic writings. Mr. Draper and Mr. Foster

142. Shakespeare. I, II. 3 hr. A study of twelve of Shakespeare's most important plays. Mr. Brawner, Mr. Draper, and Mrs. Pettigrew

160. Contemporary Literature. I. 2 hr. A study of modern British and American poets and prose writers—including novelists, short-story writers, dramatists, and essayists. Chronology is roughly from 1900 to 1925. Mr. Foster

161. Contemporary Literature. II. 2 hr. A continuation of the preceding course from approximately 1925 to the present time. Mr. Foster

163. English Literature. I, II. 3 hr. Survey: English Literature from the beginning to 1800. May be substituted for English 3 but may not be elected by students who already have credit for English 3. Staff

164. English Literature. I, II. 3 hr. Continuation of English 163 from 1800 to the present. May be substituted for English 4 but may not be elected by students who already have credit for English 4. Staff

166. American Fiction. I. 3 hr. The reading of ten or more of the most important American novels from Hawthorne to the present day, each considered as a work of art reflecting a significant view of life. Lectures on the works of principal authors, with class discussion of particular books. Mr. Brawner

173. Poetry. I, II. 2 hr. The appreciation and enjoyment of poems through critical and analytical reading. Studies in the various types of poetry, and of the language, imagery, and techniques of poetry expression. Mr. Brawner

175. The Short Story. I. 2 hr. A study of the historical development of the short story and of the schools into which the work of short story writers is divided. Mr. Bishop

180. Bible Literature: Old Testament and Apocrypha. I. 3 hr. The various types of literature exemplified in the Old Testament, read for their intrinsic merit and for their historical and cultural significance. Staff

181. Bible Literature: New Testament. II. 3 hr. The contents of the New Testament, its literary structure, and its effect upon our literature and thought. Staff

182. Masterpieces of English Literature. II. 3 hr. Intensive study of significant and literary works, to be specified when the course is scheduled. Staff

Upper-Division and Graduate Courses

222. Modern American Biography. I. 3 hr. A selection of the most significant and interesting biographies and autobiographies of Americans of distinction in literature, the arts, and public life. Miss Page

223. Modern English Biography. II. 3 hr. Representative works by such eminent masters of biography as Lytton Strachey, Sir Osbert Sitwell, Lord David Cecil, Sean O'Casey, High Kingsmill, and others. Miss Page

*224. Literary Criticism. II. 3 hr. Deals with history of literary criticism from Aristotle to modern times. Mr. Crocker

225. Recent Literary Criticism. I, II. 3 hr. A brief survey of the theories and essays of four major schools of modern criticism and an application of these theories to a novel, a play, and to selected poems and short stories. Mr. Foster

226. Early Hebrew Culture and Literature. I. 3 hr. PR: Twelve hours of college English. A study of the Old Testament, Apocryphal writings, and related literary traditions. For teachers and other mature students. Not for graduate majors in English. Staff

227. Early Christian Culture and Literature. II. 3 hr. PR: Twelve hours of college English. The New Testament, Christian apocryphal writings, and related bodies of literature and thought. For teachers and other mature students. Not for graduate majors in English. Staff

228. Advanced Grammar. I, II. 3 hr. A course in descriptive grammar, the parts of speech, constructions, and methods of diagramming. Mr. Bishop

230. History of the English Language. I. 3 hr. A study of the nature of the language; questions of origins, language families, development, relationships of English as one of the Indo-European languages. Mr. Mockler

*231. Old English. I. 3 hr. A study of Anglo-Saxon grammar, with selected readings from the literature of the period. Mr. Mockler

*232. Beowulf. II. 3 hr. PR: English 231. Continuation of the study of Old English; critical reading of *Beowulf*. Mr. Mockler

234. Chaucer. I. 3 hr. A study of Chaucer's *Canterbury Tales* and *Troilus* and *Criseyde*. In addition to an understanding and appreciation of Chaucer's literary work, the student is expected to acquire an adequate knowledge of Chaucer's language. Mr. Mockler

235. Shakespeare. I. 3 hr. A course for undergraduates and graduates in the detailed study of three of Shakespeare's major plays. Mr. Draper

239. Southern Writers. II. 3 hr. Examination of twentieth-century southern essayists, poets, short-story writers, and novelists in relation to the ideological background. Mr. Foster

242. Literature for Teachers. S. 3 hr. Study and appreciation of selected works of American authors, with special refereuce to the high-school curriculum. Given usually in the Summer Session. Mr. Hicks

*Given only in alternate years.

243. Literature for Teachers. S. 3 hr. Study and appreciation of selected works of English authors. Recommended for teachers of high-school English. Given usually in the Summer Session. Mr. Hicks

*244. Literature of the Sixteenth Century. I. 3 hr. Renaissance in England as reflected in literature with some consideration of the fine arts and other aspects of culture. Mr. Draper

*245. Literature of the Seventeenth Century. II. 3 hr. The struggle between Cavalier and Puritan as reflected in the literature of the age. Mr. Draper

*247. Literature of the Eighteenth Century. I. 3 hr. The culture-history of England, 1700-1750, as expressed in social, economic, political, and religious movements, and as reflected in literature. Mr. Draper

*248. Literature of the Eighteenth Century. II. 3 hr. A continuation of English 247, covering the period from 1750-1800. Mr. Draper

249. The Romantic Movement. I. 3 hr. The works of Wordsworth, Coleridge, and Keats, together with an introduction to works of scholarship in the field of English Romanticism. Mr. Brawner

250. American Romanticism. II. 3 hr. The writings of Ralph Waldo Emerson, Henry David Thoreau, and Nathaniel Hawthorne. A study of the relations of these men to the history of their own time, and of their contributions to American thought and art. Mr. Brawner

*252. Modern English Literature, 1881-1918. I. 3 hr. A consideration of the revolt against mechanism, the new romanticism, doctrines of action, and contemporary tendencies. Mr. Crocker

*253. Pre-Shakespearian Drama. I. 3 hr. A study of the medieval drama from its beginning to the middle of the sixteenth century. Mr. Crocker

*254. Elizabethan Drama. II. 3 hr. A study of the dramatists of the Elizabethan period, exclusive of Shakespeare. Mr. Crocker

*255. Restoration and Eighteenth Century Drama. I. 3 hr. A study of persistent forms and new developments in the drama of the period. Mr. Crocker

256. Modern Drama. II. 3 hr. A study of world drama from Ibsen to the present day, with particular reference to -isms and ideas. Mr. Crocker

257. Victorian Poetry. I. 3 hr. A study of the major Victorian poets—Tennyson, Browning, Arnold, Rossetti, Morris, Swinburne, Fitzgerald, and a few of the later Victorian poets. Mr. Gainer

*258. Victorian Prose. II. 3 hr. A study of the non-fictional writings of the great Victorian prose critics: Carlyle, Ruskin, Arnold, Newman, Macaulay, Huxley, Morris. Mr. Gainer

259. Dramatic Art of Shakespeare. II. 3 hr. A study of several of Shakespeare's histories, comedies, and tragedies, showing the chronological development of his art and matters of stage presentation in Shakespeare's age. Mr. Bishop

260. Studies in Shakesperian Comedy. I, II. 3 hr. PR: English 142, or consent of Instr. Textual and dramatic study of representative comedies. Mrs. Pettigrew

261. Technique of the Drama. I. 2 hr. A study of dramatic structure, with emphasis upon appreciation. Mr. Crocker

262. Study of Selected Authors. (American). I, II. 3 hr. A study of the works of a principal American author, or of more than one, as announced when the course is scheduled. Staff

263. Study of Selected Authors. (English). I, II. 3 hr. Study of the works of one or more of the principal English authors, as announced in the schedule when the course is listed. Staff

264. Spenser. I. 3 hr. A study of Spenser's poetry, minor poems and *The Faerie Queen*, forms and sources, purpose of the great epic, social, political, and religious allegory. Staff

266. Browning. I, II. 3 hr. A study of Robert Browning's most important shorter poems and *The Ring and the Book*. Some attention will be given to the life and poems of Mrs. Browning. Mrs. Pettigrew

267. Milton. II. 3 hr. A study of all of Milton's poems and of a few selected prose works. Mr. Gainer

270. American Poetry. I. 3 hr. A study of the major American poets of the nineteenth and twentieth centuries—Bryant, Poe, Emerson, Longfellow, Whitman, Dickinson, Frost, Eliot. Primary emphasis on their poetry as poetry; background materials minimized. Mr. Foster

272. Folk Literature. II. 3 hr. A study of the folk ballad, its origin, history, and literary significance, based on Child's collection and on American ballad collections. Mr. Gainer

*273. The Folktale and Allied Forms. II. 3 hr. The fairy tale and other folktale types, their currency in oral tradition, great collections of folktales, theories of the folktales, and methods of study. Mr. Gainer

*274. The Lyric. I, II. 3 hr. A history of lyric poetry with especial attention to the evolution of lyric styles. Mr. Draper

*275. The English Novel to the Time of Scott. I. 3 hr. A study of the English novel from the 16th century to the time of Scott, showing the development of the novelistic art from early narrative beginnings. Mr. Bishop

*276. The English Novel, 1832-1900. II. 3 hr. A continuation of English 275. The development of the English novel from the early 19th century to the beginning of the 20th century. Mr. Bishop

*277. Master Writers of the Essay. II. 3 hr. Reading and discussion of the works of major essayists from Montaigne and Bacon to the present day, together with a study of the historical development of the essay as a literary form. Mr. Brawner

*278. Tragedy. II. 3 hr. Masterpieces of tragedy from Greek times to modern, with consideration of the changing concepts of tragedy and of the ethical and ideological values reflected in the works of major tragic authors. Mr. Brawner

280. The Modern Novel. I, II. 3 hr. A study of technical methods employed by the twentieth century novelists. Thorough consideration of Henry James, Joseph Conrad, James Joyce, and others. Mr. Bishop

291. Introduction to Literary Research. I, II. 2 or 3 hr. Lectures and exercises in research problems to prepare the student for such work in graduate and professional schools. Mr. Draper

Graduate Division

392. Seminar. I, II. 2 or 3 hr. PR: Specific courses to be approved by the instructor. A graduate study of particular periods or authors. Staff

GEOLOGY AND GEOGRAPHY

Professors Fridley, Ludlum, and Wells; Associate Professor Heald; Assistant Professors Donaldson and Myers; Instructor Reece.

BACHELOR OF SCIENCE IN GEOLOGY

Each candidate for the Bachelor of Science degree is required to present credit for Geology 266 or its equivalent and must minor in an allied science (at least nine hours of Upper Division credit.) Students plannig to seek employment in the petroleum industry should minor in mathematics. A total of 132 hours is required.

*Given only in alternate years.

At least nine hours of the electives must be taken in the humanities or social sciences. The requirements are listed below:

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	Foreign Lang.	3	Foreign Lang.	3
Foreign Lang.	3	Foreign Lang.	3	Geol. 1	3	Geol. 3	3
Math. 3	3	Math. 4	3	Geol. 2	1	Geol. 4	1
Physics 1	4	Physics 2	4	Chem. 1	4	Chem. 2	4
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2	Math. 5	4	C. E. 1	2
Phys. Educ. 1	1	Phys. Educ. 2	1	Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
						Electives	3
	16		16		17		18

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Geol. 127	2	Geol. 161	3	Geol. 221	3	Geol. electives	4
Geol. 151	3	Geol. 185	4	Geol. 231	4	Other electives	13
Geol. 152	1	English 126	3	Geol. electives	4		
Geol. 184	4	Electives	7	Other electives	6		
Electives	8						
	18		17		17		17

BACHELOR OF ARTS IN GEOLOGY

The minor subject for this degree need not be a science and Math. 5 is not required. At least nine hours more of the Social Sciences and Humanities are required for the A.B. than the B.S. degree in Geology. A minimum of 124 hours must be established in subjects exclusive of credit earned in required Physical Education, required Military Science and Tactics and Air Science, and English 0.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	Foreign Lang.	3	Foreign Lang.	3
Foreign Lang.	3	Foreign Lang.	3	Geol. 1	3	Geol. 3	3
Math. 2 or 3	3	Math. 4	3	Geol. 2	1	Geol. 4	1
Physics 1	4	Physics 2	4	Chem. 1	4	Chem. 2	4
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2	Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Phys. Educ.	1	Phys. Educ.	1	Phys. Educ.	1	Phys. Educ.	1
				Electives		Electives	
				*Group 2	3-4	*Group 2	3-4
	16		16		17-18		17-18

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Art 115	3	Geol. 129	2	Geol. 127	2	English 126	3
Geol. 107	3	Geol. 161	3	Geol 221	3	Electives	14
Geol. 151	3	Chem. elective	3	Geol. 231	4		
Geol. 152	1	Elective	3	Electives	8		
Geol. 184	4	***Group 4	3				
Electives		**Group 1	3-4				
**Group 1	3-4						
	17-18		17-18		17		17

*Economics, Political Science, or Social Science (general course)
**History or Humanities (general course)
***Art, Home Economics, Library Science, or Speech

When possible complete lower division work in the first two years. Leave the courses numbered 200 and above for the senior year.

Courses of Instruction

GEOLOGY AND MINERALOGY

Lower Division

1. Physical Geology. I, II. 3 hr. Scientific description of composition and structure of earth; physical processes which change the earth's surface. (Geol. 1 must be accompanied by Geol. 2 in order to meet the requirements for 4 hours of a laboratory science in physical geology.) Staff

2. Physical Geology Laboratory. I, II. 1 hr. Accompanies Geol. 1. Staff

3. Historical Geology. I, II. 3 hr. PR: Geol. 1. Evolution of earth and its inhabitants. (Geol. 3 must be accompanied by Geol. 4 in order to meet requirements for 4 hours of a laboratory science in historical geology.) Mr. Wells

4. Historical Geology Laboratory. I, II. 1 hr. Accompanies Geol. 3. Mr. Wells

Upper Division

125. Geologic Drafting. I. PR: Geol. 2, 4. Staff

127. Map Interpretation. I. 3 hr. PR: Geol. 2, 4. Relation of earth structure and history to land forms as shown on topographic maps. Mr. Fridley

128. Map Interpretation. II. 2 hr. Continuation of Geol. 127. With emphasis on geologic interpretation from aerial photos. Mr. Fridley

129. Cartography. II. 2 hr. Techniques, principles, and practices in art of map and graph construction. Lettering and drawing instruments used in copy and field lay-out designed for reproduction. Staff

151. Structural Geology. I, II. 3 hr. PR: Geol. 3. Shape and position of rock masses in the earth's crust; mechanical principles underlying various types of rock formation; indication of economic importance of deformed rock structures with respect to recovery of mineral products. Mr. Ludlum

152. Structural Geology Laboratory. I, II. 1 hr. PR: Geol. 3. A laboratory course to accompany or follow the lecture course, Geol. 151, Structural Geology. Mr. Ludlum

161. Field Geology. II. 3 hr. PR: Geol. 151, Geol. 184 or E.M. 106. An introduction to actual field techniques utilized by geologists in mapping and reporting on geology of an area. Local areas in detail; 2-day field trip required for regional study. Mr. Donaldson

170. Natural Resources and Geology of West Virginia. II. 3 hr. PR: Geol. 1 or 107. A summary of geology of the State from a historical and economic standpoint. Staff

172. Economic Geology: Nonmetallics. II. 3 hr. PR: Geol. 184. Occurrence, formation, and use of nonmetallic mineral substances, including building materials and chemicals. Mr. Ludlum

184. Mineralogy. I. 4 hr. PR: One year each of geology and chemistry. Elements of crystallography and systematic study of minerals except silicates. Identification of minerals by their physical properties supplemented by blowpipe analysis. Mr. Heald

185. Mineralogy and Petrography. II. 4 hr. PR: Geol. 184. Description, mode of occurrence, and classification of silicate minerals and rocks. Mr. Heald

201. Physical Geology for Teachers. S. 3 hr. PR: Geol. 1 or equiv., high-school teaching certificate, and consent of Instr. Composition and structure of earth and the geologic processes which shape its surface. Staff

202. Physical Geology Laboratory for Teachers. S. 1 hr. Geol. 1 and or equiv., high-school teaching certificate, and consent of Instr. A laboratory and field study of earth materials and features and a study of topographic and geologic maps used to represent them. Staff

221. Geomorphology. I. 3 hr. PR: Geol. 151. Study of surface features of eastern United States. Mr. Fridley

222. Geomorphology. II. 3 hr. PR: Geol. 151. Continuation of Geol. 221. Surface features of western United States. Mr. Fridley

231. Invertebrate Paleontology. I, II. 4 hr. PR: Geol. 3, 4. Invertebrate fossils; their biologic classification, evolutionary development, and use in correlation of strata. Mr. Wells

235. Introductory Paleobotany. I. 4 hr. PR: Geol. 3 and/or Botany 2. A resume of the development of principal plant groups through the ages, present distribution, mode of occurrence and index species, methods of collection. Staff

236. Advanced Paleobotany. II. 4 hr. Continuation of Geol. 235. Staff

239. Seminar in Palebotany. I, II. 1-2 hr. per sem., 6 hr. max. PR: Geol. 235. Staff

240. Principles of Stratigraphy. II. 4 hr. PR: Geol. 231. Study of principles of rock and time correlation, emphasis on their application to the stratigraphy of West Virginia. Mr. Donaldson

246. Sedimentation. I. 3 hr. PR: Geol. 185. Origin of sedimentary rocks; principles involved in interpretation of ancient geography, climates, animals, and plants; i.e., basic foundations for stratigraphy. Mr. Donaldson

247. Sedimentation Laboratory. I. 1 hr. PR: Geol. 185. A laboratory course to accompany or follow the lecture course, Geol. 246. Sedimentation. Mr. Donaldson

266. Field Geology. SI. 6 hr. PR: Geol. 161, 185, 231. Practical experience in detailed geological field procedures and mapping. Living expenses are in addition to tuition and must be paid on or before registering. Mr. Wells

269. X-Ray Diffraction. I, II. 2 hr. The theory of X-ray diffraction and application to the analysis of crystalline materials using the powder camera and X-ray diffractometer. Open to advanced students in geology, chemistry, engineering, and related fields with consent of Instr. Mr. Heald

270. Geology and Mineral Resources. S. 3 hr. PR: Open to students in education having Geol. 1 or its equivalent and consent of Instr. A general survey of the character, origin, and distribution of land forms and the natural mineral resources including mineral fuels, nonmetallic minerals, ore deposits and ground water with special reference to West Virginia and neighboring regions. Staff

271. Economic Geology: Ore Deposits. I. 3 hr. PR: Geol. 172, 185. Mineral composition, geologic features, and distribution of deposits of principal useful metallic minerals. Mr. Ludlum

272. Petroleum Geology. II. 3 hr. PR: Geol. 151. Origin, geologic distribution, methods of exploration and exploitation, uses and future reserves of petroleum and natural gas in the world, with special attention to the U.S. Mr. Ludlum

273. Petroleum Geology Laboratory. I, II. 1 hr. per sem. PR: Geol. 151. A laboratory course to augment the lecture course, Geol. 272, Petrol. Geol. Mr. Ludlum

274. Seminar in Economic Geology. I, II. 1-2 hr. per sem. Staff

275. Coal Geology. I. 4 hr. PR: Geol. 4. Study of origin, nature, and distribution of coal deposits. Includes an introduction to microscopic study of coal specimens. Mr. Ludlum

276. Advanced Coal Geology. II. 4 hr. Continuation of Geol. 275. Staff

285. Optical Mineralogy. I. 4 hr. PR: Geol. 185 and one year of physics. Principles and practice in use of the petrographic microscope in identification of minerals. Emphasis on determinations by immersion method. Mr. Heald

286. Petrology. II. 4 hr. PR: Geol. 285. Composition, texture, ocurrence, and origin of rocks. Study of hand specimens and thin sections. Mr. Heald

290. Geologic Problems. I or II. 2-3 hr. Specialized work for seniors and graduates. Consult departmental adviser before registration. Staff

291. Seminar. I. 1 hr. Staff

292. Seminar. II. 1 hr. Staff

329. Problems in Geomorphology. I, II. PR: Geol. 222. Mr. Fridley

332. Micropaleontology. II. 4 hr. PR: Geol. 231. Identification of Foraminifera and Ostracoda with aid of microscope. Emphasis upon classification, nomenclature, and use of paleontological literature. Mr. Wells

334. Problems in Paleobotany. I, II. 1-6 hr. PR: Geol. 235. Staff

348. Problems in Sedimentation. I, II. 1-4 hr. PR: Geol. 246. Mr. Donaldson

349. Problems in Stratigraphy. I, II. 1-4 hr. PR: Geol. 240. Mr. Donaldson

359. Problems in Structural Geology. I, II. 1-4 hr. PR: Geol. 151. Mr. Ludlum

366. Problems in Field Geology. I, II. 1-6 hr. PR: Geol. 161. Mr. Donaldson

374. Problems in Advanced Economic Geology. I, II. 1-4 hr. PR: Geol. 271. Staff

376. Problems in Coal Geology. I, II. 1-4 hr. PR: Geol. 276. Staff

379. Seminar in Coal Researchi I, II. 1-2 hr. PR: Consent. Credit 1 hr. per sem. maximum credit, 2 hr. (In cooperation with other departments and the U.S. Bureau of Mines.) Staff

387. Advanced Petrology. I. 3 hr. PR: Geol. 286. A study of the composition, classification, and origin of the igneous and metamorphic rocks. Laboratory work consists of a study of crystalline rocks by microscopical methods. Mr. Heald

388. Problems in Mineralogy and Petrology. I, II. 1-4 hr. PR: Geol. 286. Mr. Heald

397, 398. Research. I, II. 1-5 hr., 6 hr. max. Specialized work for advanced students based upon field or laboratory evidence and reported upon in candidacy for Master's Degree. Staff

399. Research. I, II. 1-6 hr. per sem. 12 hr. max., open only to Ph.D. candidates. Staff

GEOGRAPHY

Upper Division

107. Introductory Geography. I. 3 hr. Relationship between environment and forms of life; emphasis on physiography and climatology. Staff

109. Economic Geography. I, II. 3 hr. Regional method of treating agricultural, industrial, and commercial development of each of various countries of the world. Staff

116. Geography of North America. II. 3 hr. A regional study of the area north of the Rio Grande with interpretation of geographic factors influencing growth, and problems connected with future development. Staff

118. Geography of Europe. I. 3 hr. Geographic description of continent as a whole, its political divisions, followed by study of individual regions. Staff

215. Industrial Geography. I. 3 hr. PR: 12 hr. of economics, history, geology. Factors which contribute to development of major industrial regions; detailed analysis of selected industries. Staff

216. Urban Geography. II. 2-3 hr. 12 hr. of economics, history, geology. Study of present day American cities from their distribution, function and internal structure. Field work in local urban centers and their tributary areas will be made. Staff

219. Seminar in Geography. I, II. 1-3 hr. per sem. PR: 12 hr. of economics, history, geology. Staff

Graduate Division

319. Problems in Geography. I, II. 1-4 hr. PR: 12 hr. of social studies and geology. Staff

GERMAN

Professor Lemke; Associate Professor Stilwell; Instructors Huffman and Taylor.

Students majoring in German are advised to base their schedule of upper-division courses from the following subjects, which are listed here in the order of their importance: German, education, English, European history, Romance languages, modern philosophy, and political science. Those who are not planning to teach German may omit the courses in education, but the sequence of subjects, from the viewpoint of their desirability for a major in German, remains the same.

PROGRAM OF COURSES FOR MAJORS IN GERMAN

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
German 1	3	German 2	3
English 1	3	English 2	3
Electives, Group 1	3-4	Electives, Group 1	3-4
Laboratory Sci.	4	Laboratory Sci.	4
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2
Phys. Educ.	1	Phys. Educ.	1
	14-17		14-17

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
German 3	3	German 4	3
German 111	3	German 112	3
French 1	3	French 2	3
Pol. Science 1	3	Pol. Science 2	3
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Phys. Educ.	1	Phys. Educ.	1
	16-17		16-17

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
German	6	German	6
French 5	3	French 6	3
Philosophy 4 or 104	3	Speech 3 or 11	3
Electives	3-6	Electives	3-6
	15-18		15-18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
German	6	German	3
Electives	9-12	Electives	12-15
	15-18		15-18

Advanced courses should include German 245 and 251. Recommended minor fields are English, French, Philosophy, History, or Political Science.

Courses of Instruction[15]

Lower Division

1. Elementary German. I, II. 3 hr. Pronunciation, syntax, reading, composition. Staff

2. Elementary German. I, II. 3 hr. Extensive reading. Staff

3. Intermediate German. I. 3 hr. Rapid reading of prose by modern authors. Staff

4. Intermediate German. II. 3 hr. Continuation of German 3. Staff

[15]German 1, 2, 3, and 4 are each prerequisite to the next following, and the four combined are prerequisite to all other courses with the exception of German 111, 112, and 122, for which German 1 and 2 are prerequisite.

Upper Division

105. The German Novelle. I. 3 hr. Representative stories of Keller, Meyer, Storm, and Stifter. Mr. Lemke

106. The German Novelle. II. 3 hr. From naturalism to present day. Continuation of German 105. Mr. Lemke

107. Nineteenth Century Drama. I. 3 hr. Critical study of selected dramas by Kleist, Grillparzer, Hebbel, Ludwig. Mr. Lemke

108. Nineteenth Century Drama. II. 3 hr. Continuation of German 107. Mr. Lemke

111. Spoken German. I. 3 hr. Practice in speaking and writing. Mr. Stilwell

112. Spoken German. II. 3 hr. Continuation of German 111. Mr. Stilwell

121. Scientific German. I. 3 hr. Primarily for students in science courses. Staff

122. Scientific German. II. 3 hr. Continuation of German 121. Staff

136. Introduction to Goethe. II. 3 hr. Mr. Lemke

161. Lyric Poetry. I. 3 hr. Mr. Lemke

163. Modern German Prose in English Translation. I. 3 hr. PR: None. Reading and discussion of outstanding German short stories and a few novels. (No credit allowed for departmental majors nor for regular language requirements.) Mr. Lemke

201. Independent Reading. I. 3 hr. Supervised reading for students who wish to do intensive work in any field of interest. Mr. Lemke

202. Independent Reading. II. 3 hr. Continuation of German 201. Mr. Lemke

211. Middle High German. I. 3 hr. PR: 12 hr. of German from upper division. Mr. Stilwell

212. Middle High German. II. 3 hr. Continuation of German 211. Mr. Stilwell

231. Advanced Grammar and Composition. I. 3 hr. PR: German 111 and 112, or consent of Instr. Intensive review of German grammar with extensive practice in German composition and translation into German. Mr. Stilwell

232. Advanced Composition and Conversation. II. 3 hr. PR: German 231 or consent of Instr. Additional practice in composition, with all explanations and discussions conducted in German. Mr. Stilwell

242. Faust. II. 3 hr. Critical study of Goethe's *Faust*. Mr. Lemke

244. German Literature Before Goethe. II. 3 hr. A survey of German literature from its beginnings to the middle of the 18th century. Mr. Stilwell

245. Survey of German Literature, 1766-1870. I. 3 hr. Mr. Lemke

246. Survey of German Literature, 1870-1940. II. 3 hr. Mr. Lemke

251. History of the German Language. I. 3 hr. PR: 18 hr. of German or consent. Development since ancient times. Mr. Stilwell

252. German Philology. II. 3 hr. PR: German 251 or consent. Comparison of old Germanic dialects and literatures. Mr. Stilwell

272. The Romantic Movement. II. 3 hr. Mr. Lemke

275. The Modern Novel. II. 3 hr. PR: 18 hr. of German. Supervised reading of nineteenth century novels. Mr. Lemke

276. The Modern Novel. II. 3 hr. Continuation of German 275, with emphasis on recent fiction. Mr. Lemke

281. Old Norse. I. 3 hr. PR: consent. Elementary study of Old West Norse prose. Mr. Stilwell

282. Old Norse. II. 3 hr. Readings in various Old Icelandic sagas; introduction to Old Norse poetry. Continuation of German 281. Mr. Stilwell

HISTORY

Professors Summers, Easton, and Ennis; Associate Professors Barnhart, Barns, and Smith; Assistant Professors Bagby, Johnson, Krauskopf, Levine, and Steel.

Before graduation history majors are required to complete 18 hours in upper-division courses, including Hist. 276, Introduction to Historical Research and Bibliography. Six hours in political science and 6 hours in economics are also required in addition to the special requirements for the A.B. Degree. Students who expect to major in history should complete the following subjects, or their equivalents, in their first and second years: English, 6 hr.; French or German, 12 hr.; history, 12 hr., which should include Hist. 52 and 53 and may include one year's work in either the Humanities or the Social Science general courses; laboratory science, 8 hr.; political science, 6 hr.; and economics, 6 hr.

In planing work in history, students should consult the department in order that advanced courses may be properly correlated as well as suited to individual tastes and needs. One lower division "year-course" or its equivalent in history is prerequisite for a major, but prospective majors are advised to take two such courses, or Hist. 52 and 53 and one year of Humanities or Social Science general courses.

CURRICULUM FOR A.B. DEGREE WITH MAJOR IN HISTORY

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	Electives,		Electives,	
Foreign Lang.	3	Foreign Lang.	3	Group 3*	3	Group 3*	3
Laboratory Sci.	4	Laboratory Sci.	4	Foreign Lang.	3	Foreign Lang.	3
History 1	3	History 2	3	History 52	3	History 53	3
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2	Economics 1	3	Economics 2	3
Phys. Educ.	1	Phys. Educ.	1	Pol. Science 1	3	Pol. Science 2	3
				Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
				Phys. Educ.	1	Phys. Educ.	1
	14-16		14-16		16-18		16-18

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
History†	6	History	6	History 276	3	History	3-6
Minor	3	Minor	3	History**	3	Minor or	
Electives	6-9	Electives	6-9	Minor	3-6	Electives	3-6
				Electives	6-9	Electives	6-9
	15-18		15-18		15-18		15-18

*Teacher's Certification. In Group 3, English 3 and 4 should be selected.
†History courses numbered 100-199 are recommended.
**History courses numbered 200-299 are recommended.

Courses of Instruction

Lower Division [16]

1. World Civilization from the Earliest Times to the Reformation. I, II. 3 hr. For freshmen. The development of social, economic, and political institutions. Messrs. Bagby, Easton, Ennis, Johnson, Levine, and Miss Smith

[16]All first and second-year courses are offered as lower-division "year-courses." These courses run through the year, but in no case is the first half-year a prerequisite for the second half. For example, Hist. 1 is not a prerequisite for Hist. 2. Hist. 1 and 2 make up the introductory first year in history. Hist. 52 and 53 are primarily for sophomores. Students are not permitted to take both History 1 and 2 during the same semester unless subject to the repeat D-rule in both courses.

2. World Civilization from the Reformation to the Present. I, II. 3 hr. For freshmen. Continuation of Hist. 1.
Messrs. Bagby, Easton, Ennis, Johnson, Levine, and Miss Smith

52. Growth of American Nation to 1865. I, II. 3 hr. Primarily for sophomores.
Messrs. Bagby, Barnhart, Barns, Steel, Summers, and Miss Krauskopf

53. Making of Modern America, 1865 to Present. I, II. 3 hr. Primarily for sophomores. Messrs. Bagby, Barnhart, Barns, Steel, Summers, and Miss Krauskopf

Upper Division

101. History of Ancient Times: Stone Age to the Fall of Rome.* I. 3 hr. Mr. Johnson

102. Medieval Europe: Fall of Rome to Renaissance.* I. 3 hr. Mr. Johnson

103. Modern Europe, 1500-1815. Staff

104. Modern Europe, 1815 to the Present. II. 3 hr. Staff

117. History of France from Richelieu to the Fourth Republic.* I or II. 3 hr. Mr. Easton

118. History of Germany Since the Thirty Years' War*. I or II. 3 hr. Mr. Easton

119. History of Russia from Varangians to Bolshevicks.* I. 3 hr. Mr. Easton

120. Latin-American History: Colonial Period and Wars of Independence. I. 3 hr. PR: One year of history or consent. Mr. Barnhart

121. Latin America Since 1824. II. 3 hr. Continuation of Hist. 120. Mr. Barnhart

122. Mexico. I or II. 3 hr. PR: At least junior standing or consent. Mr. Barnhart

133. British Civilization to 1689. I. 3 hr. Miss Smith

134. British Civilization Since 1689. II. 3 hr. Miss Smith

149. United States and Pennsylvania. I or II. 3 hr. Staff

150. West Virginia. I, II. 3 hr. Mr. Summers

151. American Colonial History. I or II. 3 hr. Miss Krauskopf

152. The American Revolution and the Confederation, 1763-1789. I or II. 3 hr. Miss Krauskopf

154. Development of the United States to 1865. I or II. 3 hr. For juniors or seniors who have not taken Hist. 52. Staff

155. Course of Modern America Since 1865. I or II. 3 hr. For juniors or seniors who have not taken Hist. 53. Staff

158. The United States from Abraham Lincoln to Theodore Roosevelt. I or II. 3 hr. PR: Hist. 53 or consent. Mr. Summers

164. History of Asia. I. 3 hr. Mr. Ennis

176. American Economic History to 1865. I. 3 hr. Mr. Barns

180. American Economic History Since 1865. II. 3 hr. Mr. Barns

181. The American Labor Movement. II. 3 hr. Mr. Barns

190. The Cultural History of the American People to 1876. I or II. 3 hr. Mr. Steel

191. The Cultural History of the American People Since 1876. I or II. 3 hr. Mr. Steel

201. Modern Problems in the Ancient and Medieval Worlds. I or II. 3 hr. PR: At least junior standing. Mr. Johnson

*PR: One college course in European history, or consent of instructor.

202. Problems in European History Since 1500. I, II. 3 hr. PR: Hist. 1 and 2 or equiv., or consent. Mr. Levine

205. Medieval Cultural History. I or II. 3 hr. PR: Senior or graduate standing with one year of European history, or consent. Mr. Johnson

206. The Renaissance and the Reformation. II. 3 hr. PR: For seniors and graduate students with one year of European history, or with consent. Staff

207. Cultural Europe, 1600-1800. I or II. 3 hr. PR: For seniors and graduate students with one year of European history, or with consent. Mr. Easton

208. Cultural Europe, 19th Century. I or II. 3 hr. Continuation of Hist. 207. Mr. Easton

209. French Revolution. I. 3 hr. PR: Senior or graduate standing with one year of European history, or consent. Mr. Easton

210. Napoleonic Era. II. PR: Senior or graduate standing with one year of European history. or consent. Mr. Easton

213. Social and Economic Development of Modern Europe, 1750-1870. I. 3 hr. PR: Hist. 1 and 2, or consent. Miss Smith

214. Social and Economic Development of Modern Europe Since 1870. II. 3 hr. Continuation of Hist. 213. Miss Smith

220. History of Contemporary Russia. I or II. 3 hr. PR: Same as for Hist. 207. Mr. Easton

231. The British Empire. I. 3 hr. PR: Hist. 134 or consent. Miss Smith

233. Social and Economic History of England from the 14th to the 18th Century. I, II. 3 hr. PR: Junior Standing. Mr. Levine

234. Social and Economic History of Modern England. I and II. 3 hr. PR: Hist. 134, or with consent. Miss Smith

241. Europe from Sedan to Versailles. I. 3 hr. PR: Hist. 1 and 2 or equivalent. Mr. Ennis

242. Europe from Versailles to Nuremberg. II. 3 hr. Continuation of Hist. 241. Mr. Ennis

249. The Westward Movement to 1820. I. 3 hr. PR: Hist. 52 and 53 or equivalent. Miss Krauskopf

250. Economic and Social Development of West Virginia. I or II. 3 hr. PR: Consent. Primarily for teachers. Mr. Summers

254. Trans-Mississippi West. II. 3 hr. Continuation of Hist. 249. Miss Krauskopf

255. The Jacksonian Era. II. 3 hr. PR: Hist. 52. Staff

256. The Old South. I, II. 3 hr. For seniors and graduate students, or with consent. Mr. Steel

257. The American Civil War. I, II. 3 hr. For seniors and graduate students, or with consent. Mr. Summers

258. The Cleveland Era. I or II. 3 hr. For seniors and graduate students, or with consent. Mr. Summers

259. The United States from McKinley to the New Deal, 1898-1933. I. 3 hr. PR: Seniors and graduate students, or consent. Mr. Barns

260. American Diplomacy to 1898. I. 3 hr. Hist. 52 and 53 or equivalent. Mr. Bagby

261. American Foreign Policy and Diplomacy, 1898-1947. II. 3 hr. Continuation of Hist. 260. Staff

262. Problems of the Pacific. II. 3 hr. PR: Hist. 164. Mr. Ennis

265. American Constitutional Development to 1860. I. 3 hr. PR: Hist. 52 and 53 or equiv. Mr. Barnhart

266. American Constitutional Development Since 1860. II. 3 hr. Continuation of History 265. Mr. Barnhart

269. Recent American History. I or II. 3 hr. For seniors and graduate students, or with consent. Mr. Barns

270. Partition of Asia. I or II. 3 hr. PR: Hist. 164. Mr. Ennis

271. Problems in Contemporary Europe. I or II. 3 hr. Continuation of Hist. 242. Mr. Ennis

276. Introduction to Historical Research and Bibliography. I, II. 3 hr. This course prescribed in fourth year for all history majors. Mr. Barnhart

277. The Literature of American History. I or II. 3 hr. Open to graduate students in history and to seniors majoring in history. Staff

282. History of American Agriculture. I or II. 3 hr. PR: Hist. 52 and 53, or consent. Mr. Barns

290. Growth of American Thought Before 1865. II. 3 hr. For seniors and graduate students, or with consent. Mr. Steel

291. Growth of American Thought Since 1865. II. 3 hr. For seniors and graduate students, or with consent. Mr. Steel

Graduate Division

301, 302. Thesis. I, II. 2 or 3 hr. per sem. Staff

303, 304. Research. I, II. 6 hr. per sem. Staff

305. Directed Topical Reading. I or II. 3 hr. Staff

349, 350. Problems in Local and Regional History. I, II. 3 hr. per sem. Mr. Barns and Mr. Summers

356. Seminar in American History, 1492-1789. I, II. 3 hr. Staff

357. Seminar in American History, 1763-1865. I, II. 3 hr. Staff

358. Seminar in American History, 1850-1898. I, II. 3 hr. Staff

359. Seminar in American History, 1890-Present. I, II. 3 hr. Staff

360. Rise of Nationalism in Asia. I or II. 3 hr. Mr. Ennis

361. Contributions of Asia to Western Civilization. I or II. 3 hr. Mr. Ennis

384, 385. Problems in British Imperialism and World Politics. I, II. 3 hr. per sem. Miss Smith

386. Imperial Germany, 1871-1918. I or II. 3 hr. Mr. Easton

389. Problems in Revolutionary Europe, 1763-1815. I or II. 3 hr. Mr. Easton

HOME ECONOMICS

Professor Nofer (Adviser) and Staff

The degree of Bachelor of Arts with a major in Home Economics is offered by the College of Arts and Sciences. Courses for this program of study are provided by the College of Arts and Sciences and by the College of Agriculture, Forestry, and Home Economics. In order to qualify for this degree, a student must meet the general requirements for the A.B. degree as outlined on page 132. The general courses listed below are taught by the Home Economics faculty of the College of Agriculture, Forestry, and Home Economics and are approved for fulfillment of the requirements of a major in the College of Arts and Sciences.

Careers in home economics are open to practically every type of girl: the artistic, the businesslike, the science-minded, the teacher, and the homebody. Students who

elect home economics as a major will find it possible to prepare at the same time for homemaking and a profession. The knowledge and experince gained in pursuing a course in home economics also will help the student become an efficient, understanding, and happy homemaker.

A student desiring to obtain a high-school teaching certificate in the field of Home Economics should inform her adviser at the beginning of the first semester so that a proper program may be planned. For specific information in regard to certification for teaching, see the bulletin *Requirements Applicable to Degrees and Certificates.*

A suggested curriculum:

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3
Biol.*, Phys. Sci.* or Chem.**	4	Biol.*, Phys. Sci.* or Chem.**	4
Foreign Lang.	3	Foreign Lang.	3
Home Econ. 1, 2,† 3, or 4 (any two)	4	Home Econ. 1, 2,† 3, or 4 (two not taken 1st Sem.)	4
Elective (Music 10 or Art 30*)	2	Elective (Music 10 or Art 30*)	2
Phys. Educ.	1	Phys. Educ.	1
	17		17

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Electives, Group 3*	3	Electives, Group 3*	3
Electives, Group 2*	3-4	Elective, Group 2*	3-4
Home Econ. 105 or 15*	2-4	Home Econ. 12, 17 or 23	2-3
Group 1	3-4	Group 1	3-4
Foreign Lang.	3	Foreign Lang.	3
Phys. Educ.	1	Phys. Educ.	1
Electives	2	Electives	2
	17-18		17-18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Home Econ. 114	2	Home Econ. 106	3
English 18*	3	Elective, Group 5*	3-4
Home Econ. electives*	3-5	Home Econ. Electives	3-5
Minor	3	Minor	3
Elective	2	Electives	1-4
	16		15

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Home Econ. electives*	4-6	Home Econ. electives*	3-6
Minor field	3	Electives	13
Electives	9		
	16		16

*The following notes apply to those who wish to qualify for a secondary teacher's certificate:
(a) Biology or Physical Science required.
(b) Music 10 and Art 30 or 130 required.
(c) Group 3—English or American literature required.
(d) Group 2—Social Science required.
(e) Home Econ. 15 required.
**Required of those planning to major in foods and/or nutrition.
†Students who exempt Home Econ. 2 by placement test will take Home Econ. 12.

Courses of Instruction

1. Elementary Nutrition. I, II. 2 hr. Essentials of adequate diet; application with particular reference to needs of college students. Mrs. Berthy
Section 2. I. 2 hr. Advanced section of H.E. 1 for those who qualify on the basis of placement test. Mrs. Berthy

2. Elementary Clothing. I, II. 2 hr. Problems in selection and construction of clothing. For freshmen and others who do not pass placement test. Miss Franck

3. Art Applied to Personal Problems. I, II. 2 hr. Principles of design and color applied so as to help college students meet problems of daily living. Problems may include room arrangement, clothing, design, etc. Miss Ramsey

4. Elementary Management. I, II. 2 hr. The application of management to the use of time, money, energy, and other sources to achieve individual goals. Miss Corliss

12. Intermediate Clothing. I, II. 3 hr. PR: Home Econ. 2 or exemption of Home Econ. 2 by placement test. Development of judgment in selection and skill in construction. Emphasis on pattern alterations and fitting. Garments constructed in woolen, synthetic and cotton fabrics. One child's garment included. Miss Franck

15. Food Selection and Preparation. I, II. 4 hr. PR: Home Econ. 1, Chem. 2 or Physical Sci. 2 or consent. (2 lec., 2 lab.). Basic food selection, care, and preparation. Emphasis is placed on the chemical and physical properties of foods and reactions which occur during processing. Mrs. Jones

17. Textiles. I, II. 3 hr. Lec. and lab. combined. Characteristics of textile fibers and fabrics, studied in relation to their use in the home. Representative materials examined and studied in the laboratory. One field trip required. Staff

21. Nutrition and Food for Nurses. I. 3 hr. Fundamental principles of human nutrition and of food preparation. Content of course is that given in "Teaching Dietetics to Student Nurses," by American Dietetic Association. Mrs. Berthy

23. Present-Day Housing. I, II. 2 hr. PR: Home Econ. 3 or consent. Factors to be considered in providing housing for families at different income levels. Special attention to low-cost housing. Factors to be considered in selecting a home and furnishings for families of different income levels. Lab. practice in improving rooms, apartments, and houses—using materials commonly found in rural communities and small towns. Miss Ramsey

101. Nutrition. I. 3 hr. PR: Home Econ. 15, Chem. 2 or Phys. Sci. 2 with consent. Two lec., 1 lab. Food needs as affected by such factors as age, sex and activity; nutritive value of common foods; planning of adequate diets at different cost levels. Mrs. Berthy

102. Clothing Selection. I, II. 2 hr. PR: Home Econ. 3 or consent. Two lec. Selection of clothing for whole family from viewpoint of design, color and economy. Clothing inventories and buying plans. Miss Franck

104. Nutrition and Home Management. II. 3 hr. Planned to meet the needs of social work majors. Offered in 1960-61 and alternate years. (Not open to Home Economics students.) Mrs. Berthy

105. Planning and Serving Family Meals. 2 hr. PR: None. A practical course in food selection, preparation, and service. Course is based on student needs and interests. (Not open to Home Economics majors.) Mrs. Jones

106. Child Development. I, II. 3 hr. PR: Psych. 1 or 3 or Educ. 105 or 106. Two lectures. Child from prenatal period to pre-adolescence. University Nursery School used for observing children. Four hours a week for observation and participation. Miss Brown and Mrs. Ayersman

111. Requirements for Normal Human Nutrition. I, II. 3 hr. Lecture and demonstration. Two 2-hr. and one 1-hr. class per week. Staff

113. House Decoration. II. 3 hr. (Not open to Home Economics students.) Designed primarily for students who are not majoring in Home Economics. Two lectures and one lab. Materials and furnishings that go into decorating and furnishing a home with emphasis on cost, buying, and reconditioning. Miss Ramsey

114. Management of Family Living. I, II. 2 hr. (Not open to Home Economics students.) Influence of home conditions on families and family members. In considering ways of meeting everyday problems of familes an attempt will be made to apply findings of science and techniques of management in such a way a to help families achieve satisfaction in living. Staff

115. Meal Planning, Preparation, and Service. I, II. 3 hr. PR: Home Econ. 15 or consent. (1 lec., 1 3-hr. lab.) Selection and purchase of foods; planning, preparing, and serving meals with emphasis on time, energy, and money management. Mrs. Jones

116. Home Nursing. II. 2 hr. One lec., 2-hr. lab. Practices to promote family health and caring for minor illnesses. Offered in 1960-61 and alternate years. Staff

117. Textile Buying. II. 2 hr. PR. H.E. 17. Lecture and laboratory combined. Buying of textiles for all types of clothing and for household. At least one field trip required. Offered in 1960-61 and alternate years. Miss Dietrich

121. Nutrition Work with Children. II. 3 hr. PR. Home Econ. 115, 106, or 106 parallel. Problems involved in feeding children optimum diets. Opportunity for students to (1) prepare noon meals for University Nursery School children; (2) observe a number of school-lunch programs in and near Morgantown. Mrs. Berthy

123. Home Planning and Furnishing. I, II. 4 hr. PR: Home Econ. 23. Two lectures and two laboratories. Fundamentals of wise planning to meet family needs; understanding of house structure and home needs. Discussions on home decorating based on various income levels and suitability to various communities and families. Miss Ramsey

124. Demonstration Techniques. I, II. 2 hr. PR: Minimum of 4 hours in each of 4 areas of home economics or consent. Lecture demonstration as means of presenting home economics materials to groups. Development and presentation of demonstrations suitable for secondary schools and for use with adult groups. Mrs. Dorsey

125. Foods for Special Occasions. II. 2 hr. PR: Home Econ. 15 or consent. Unusual foods and unusual methods of preparing and serving everyday foods. Preparation, organization, and management involved in foods for social functions. Offered in 1959-60 and alternate years. Mrs. Jones

132. Clothing Techniques. II. 2 hr. Not open to Home Economics students. Techniques for simple garment construction, remodeling, alteration, and repairs. Problems adapted to needs of individual students. Especially planned for Arts and Sciences students and young homemakers. Miss Dietrich

133. Home Crafts. II. 2 hr. Two labs. Experience in simple crafts, using such materials as leather, plastic, metals, paper, thread, and fabric for creation of useful and beautiful objects. Equipment and materials used are those readily available in home, school, and camp situations. Miss Ramsey

134. Principles of Home Management. I, II. 2 hr. An intermediate course in management as applied to the family and homemaking. Detailed consideration of family goals and resources. Miss Corliss

181. Problems in Nutrition. I, II. 1-4 hr. PR: Consent. Staff

182. Problems in Clothing Construction. I, II. 1-4 hr. PR: Consent. Staff

183. Problems in Related Art. I, II. 1-4 hr. PR: Consent. Staff

184. Problems in Home Management. I, II. 1-4 hr. PR: Consent. Staff

185. Problems in Foods. I, II. 1-4 hr. PR: Consent. Staff

186. Problems in Child Development. I, II. 1-4 hr. PR: Consent. Staff

187. Problems in Textiles. I, II. 1-4 hr. PR: Consent. Staff

201. Diet in Disease. II. 2 hr. PR: Home Econ. 101, Zool. 171, Chem. 131. Adaptations of normal diet for diseases whose prevention or treatment is largely influenced by diet. Offered in 1960-61 and alternate years. Staff

205. Experimental Cookery. II. 3 hr. Home Econ. 15, Chem. 131. 1 hr. lecture, two 2-hr. lab. Utensils, ingredients, temperature, manipulation, and cooking methods as they effect quality of cooked products. Offered in 1960-61 and alternate years. Mrs. Jones

206. Observation and Participation in the Nursery School. II. 1-2 hr. PR: Home Econ. 106. Directed experience in working with children in a nursery-school situation. Laboratory and conference. Offered in 1960-61 and alternate years. Miss Brown and Mrs. Ayersman

211. Reading in Nutrition. II. 2 hr. PR: Home Econ. 10. Reviews of current literature and of present research. Topics depend upon needs and interests of class members. Offered in 1960-61 and alternate years. Mrs. Berthy

212. Advanced Clothing Construction. II. 2 hr. PR: Home Econ. 17, 233. Offers opportunity for creative expression and for understanding of pattern through handling of fabrics on dress form. Costumes are designed, draped, and constructed. Miss Franck

214. Family Economics. I. 2 hr. PR: 30 hr. of Home Econ. Management of family's money resources. Consideration of the economic problems of families, of planned spending and saving, and of the roles of the consumer. Miss Corliss

215. Food Preservation. I. 2 hr. PR. Home Econ. 15. Two 2-hr. lab. Fundamental principles involved and actual experience in various methods of food preservation. Offered in 1959-60 and alternate years. Mrs. Jones

217. Reading in Textiles. I. 2 hr. PR: Home Econ. 17. Review and discussion of current literature reporting recent research in the field. Offered in 1959-60 and alternate years. Staff

221. Community Nutrition Problems. I. 2 hr. PR: consent. Two hr. lec., field work. Includes consideration of organizations and agencies through which these problems may be solved. Offered in 1959-60 and alternate years. Staff

222. Tailoring. II. 3 hr. PR: Home Econ. 2, 17. Tailoring of suits and coats. Emphasis placed on professional techniques, advanced fitting and construction of garments. Second garment constructed by fast-method techniques. Miss Franck

233. Costume Design. I. 2 hr. PR: Home Econ. 3, 12, 117. Techniques of figure and fashion drawing. Designing for individuals of various types and ages. Some history of costume included. Miss Franck

234. Home Management Laboratory. I, II. 3 hr. PR: Home Econ. 15, 106, 114; 115 recommended. Arranged. A residence course designed to provide opportunity to apply management in a realistic homemaking situation, to develop satisfying relationships in a family-like atmosphere, and to use information and skills learned in other courses. Miss Corliss

254. Household Equipment. II. 2 hr. PR: Senior standing. Selection, arrangement, use and care of equipment for various situations and for different income levels. Lab. and discussion. Miss Corliss

264. Family Development. II. 2 hr. PR: Home Econ. 114 or consent. A professional course designed to prepare students for work with families in their varying states of development and different socio-economic levels. Involves intensive study of family relationships as affected by differing stages of family life cycle from beginning family through the aging couple. Lecture, discussion, and observation of families. Staff

266. Needs of Adolescents. I. 3 hr. A study of adolescent needs as met by the home with contributions of other agencies such as church, school and youth groups. Physical, social and integrative needs will be considered from the standpoint of needs of all family members as well as the individual. Miss Brown

281. Problems in Nutrition. I, II. 1-4 hr. PR: Consent. Staff

282. Problems in Clothing. I, II. 1-4 hr. PR: Consent. Staff

283. Problems in Related Art. I, II. 1-4 hr. PR: Consent. Staff

284. Problems in Home Management. I, II. 1-4 hr. PR: Consent. Staff

285. Problems in Foods. I, II. 1-4 hr. PR: Consent. Staff

286. Problems in Child Development. I, II. 1-4 hr. PR: Consent. Staff

287. Problems in Textiles. I, II. 1-4 hr. PR: Consent. Staff

LIBRARY SCIENCE

Associate Professor Reese; Instructor Wade

Courses in undergraduate library science are designed to meet the needs of students preparing to qualify for State certification as teacher-librarians in public schools. A student who is a candidate for an A.B. degree with a major in this field must satisfy the requirements of the College of Arts and Sciences and have completed 24 hours of library science. If planning to serve as school librarians, students will be required to complete the minimum number of hours in education courses in order to meet certification standards.

Certain courses, such as "Reference and Bibliography" will be valuable to any university student as an aid to the tools and methods of research; "Library Materials for Children" and "Selection of Books and Related Materials for Young People" will be helpful to prospective teachers.

Qualities essential to school librarianship are adaptability, understanding and appreciation of young people and their needs, a thorough knowledge of books, materials, and sources.

Students wishing to do graduate work in library science should plan their courses to give a broad general background. A strong major in their chosen field, supplemented by introductory courses in as many subject matter fields as possible, will provide a good background for graduate work. Additional hours of modern foreign language, preferably French or German, are desirable. A knowledge of typing is essential.

A Graduate Program in Library Science, leading to the Master's degree, was authorized and began with the summer session of 1958. For entrance requirements and courses of study, consult *The Announcements of the Graduate School.*

CURRICULUM FOR THE A.B. DEGREE WITH MAJOR IN LIBRARY SCIENCE

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3
Foreign Lang.*	3	Laboratory Sci.	4
Laboratory Sci.	4	Foreign Lang.*	3
Lib. Sci. 1	2	Electives	
Electives		Group 1 or 2	3-6
Group 1	3-4	Phys. Educ.	1
Phys. Educ.	1	Mil. or Air Sci. 2	2
Mil. or Air Sci. 1	2		
	16-18		17-18

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 3 or 5	3	English 4 or 6	3
Foreign Lang.	3	Foreign Lang.	3
Social Sci. 1	4	English 21	3
Electives		Social Sci. 2	4
Group 1 or 2	3	Electives	
Speech 11	3	Group 1 or 2	3
Phys. Educ.	1	Phys. Educ.	1
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
	17-18		17-18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Lib. Sci. 203	3	Lib. Sci. 101	3
Lib. Sci. 223	3	Lib. Sci. 205	3
Educ. 105	3	Lib. Sci. 225	3
Electvies		Educ. 106	3
Group 3, Upper Div.	3-6	Art 130	3
Electives		Electives	
Group 4 or 5	3	Group 3 Upper Div.	3
	15-18		18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Lib. Sci. 207	3	Lib. Sci. 222	3
Lib. Sci. 230	3	Health Educ. 101	2
Educ. 114	3	Practice Teaching	8
Electives	9	Electives	3-4
	18		16-17

*Modern foreign language, preferably French or German. Students should have at least 12 hours. Additional hours are desirable for graduate study.

Courses of Instruction

Lower Division

1. Using Books and Libraries. I, II. 2 hr. Planned to give a working knowledge of library facilities, particularly of the University Library. Basic reference materials are considered together with simple bibliography making. A general course useful to any student in the University and required for majors in library science. Staff

Upper Division

101. Reference and Bibliography. I. 3 hr. Basic reference books, dictionaries, encyclopedias, indexes, year books, and other reference materials are studied and evaluated, with practice in detailed bibliography making. Staff

203. Library Materials for Children. I, II, S. 3 hr. A survey of the development of children's literature with emphasis on modern books. Evaluation of the aids and standards for selection of books and materials in this field. Study and comparison of the work of illustrators of children's books and various editions of individual titles. Investigation of children's reading interests and practice in story telling are included. Reading of Books in various classes is emphasized. Discussions, reports and special projects. Intended primarily for teachers whose duties include the selection of books either for class or library use. (May not be offered for graduate credit by library science majors.) Staff

205. Selection of Books and Related Materials for Young People. II, S. 3 hr. A survey of adolescent literature and other library materials adapted to the needs of high school students. Critical evaluation of standard, classic and current books together with aid and criteria for selection. Reading interests and the problem of retarded and nonreader will be considered. Designed for the teacher who is interested in selection problems or for the school librarian. (May not be offered for graduate credit by library science majors.) Staff

207. School Library Organization and Adminsitration. I, S. 3 hr. A study of the organization and administration of school libraries, including planning of rooms, equipment routines and schedules. Attention is given to special phases of the work such as discipline, publicity and displays, reading, guidance, handling of audio visual materials and the work of student assistants. Lectures, readings, discussions and special problems. Designed to meet the needs of the librarian and teacher-librarian. (May not be offered for graduate credit by library science majors.) Staff

220. The School and the Library. II. 2 hr. PR: Consent of adviser. A course planned for teachers, librarians and administrators of elementary, junior and senior high schools. Interested parents should find the course helpful. Consideration will be given to library planning; better integration of library service with school and community to meet curriculum and recreational needs; selection of material and aids; books and reading materials for elementary and teen-age students. Staff

221. Public and Regional Library Service. S. 3 hr. PR: Consent. Principles governing the administration of tax supported public libraries and the development of larger units of service. Objectives, functions, control, finances, building and equipment, personnel, special services. Staff

222. Field Practice. I, II, S. 3 hr. Embodies techniques in various types of libraries. Designed to promote an understanding of total library programs and the interrelations of library methods and skills found in the different libraries. Offered after basic courses have been completed. Staff

223. Cataloging and Classification. I, S. 3 hr. Basic principles of cataloging and classification combined with practical experience in processing the various types of books and materials. Problems peculiar to the teacher-librarian will be considered. Staff

225. Books and Reading for Adults. II, S. 3 hr. PR: None. Reading and evaluation of representative books in broad subject fields. Stress on both modern titles and the classics for the adult reader. Emphasis on book reviewing, both written and oral, with a study of book selection aids. Class discussions, problems, term reports. Staff

226. Literature of the Social Sciences. II, S. 3 hr. PR: Consent. An approach to the selection of books and materials in the social sciences. The whole library collection will be considered but the main emphasis will be on specialized

materials, bibliographies, institutions and societies, periodicals, government documents, indexes, and other material not readily located through the card catalog. Subjects included will be history, geography, political science, sociology, social welfare, education, psychology, economics, business. Staff

228. Literature of Science and Technology. I or II,* S. 3 hr. PR: Consent. A course designed to give the student a good working knowledge of the vast and increasingly complex literature of science and technology. It is also designed to enable him to use a research library with intelligence and efficiency. Staff

230. Library Resources for the School Curriculum. II. 3 hr. Broadened experiences in both library and outside resources that lend themselves to curriculum enrichment, including guidance, remedial reading, text books, community resources, all phases of audio visual, etc. Presented to elementary and secondary teachers as well as librarians to help them give more effective service. Staff

Graduate Division

302. Administration of College and University Libraries. I or S.* 3 hr. Principles and problems involved in the administrative organization of the college library, including finance, public relations, departmental organization and services to students and faculty. Staff

304. Advanced Cataloging and Classification. II, S. 3 hr. PR: Lib. Sci. 223. A more detailed study of classification including both Dewey and Library of Congress classifications as they pertain to books and nonbook materials found in college, university, special library collections, and large public libraries. Staff

306. History of Books and Libraries. II, S. 3 hr. A survey course, including the development of writing, and history of writing materials, the development of the book from early manuscript form, history of printing, printers, book illustration, bindings, and the library and its development. Staff

308. Administration and Supervision of Public School Library Systems. I or II, S. 3 hr. PR: Lib. Sci. 207. Principles and problems involved in giving service to individual schools and school systems on the elementary and secondary school levels. It will include a study of standards, training, functions, and duties of the teacher-librarian as well as the full-time librarian. Special attention will be devoted to the advantages of trained supervision on the national, regional, state and local levels. Staff

309. Seminar. I or II, S. 2 hr. (Max. credit, 4 hr.). Required of all majors in Library Science. A course covering special problems in the library field, varying according to the group and its needs. Members of the University Library Staff and visiting librarians will participate. Staff

*Alternately.

MATHEMATICS

Professors Davis, Stewart, Vehse, and Vest; Associate Professors Cunningham and Peters; Assistant Professors Cochran and Posey; Instructors Awasthi, Cady, Carlin, Coover, Easton, Gilbert, Gould, Hall, Hawkins, Heflin, Hennen, Hokman, Lowenberg, Miller, and Strong.

A student must have a grade point average of 2.0 or higher in mathematics courses taken in the lower division before he will be admitted to the upper division as a mathematics major.

Lower division students who plan to become majors in the Department, who also wish to meet the requirements for teacher certification, should so inform their lower-division adviser, and plan their schedules very carefully in order to avoid loss of time.

The foreign language should be French, German, or Russian.

Mathematics majors must complete 18 hours of mathematics beyond calculus. The usual courses are Math. 235, 240, 243, 246, 251, and 252. The minor may be physics, or some other subject approved by the adviser.

Following is a suggested program for prospective majors in mathematics.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3
Foreign Lang.	3	Foreign Lang.	3
Lab. Sci.	4	Lib. Sci.	4
Math. 3	3	Math. 5	4
Math. 4	3	Mil. or Air Sci. 2	2
Mil. or Air Sci. 1	2	Phys. Educ.	1
Phys. Educ.	1		
	17-19*		15-17

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Foreign Lang.	3	Foreign Lang.	3
Math. 107	4	Math. 108	4
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Phys. Educ.	1	Phys. Educ.	1
Distribution requirements	6-9	Distribution requirements	6-9
	15-18		15-18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Math. 240	3	Math. 235	3
Math. 246	3	Math. 243	3
Distribution requirements	0-3	Distribution requirements	0-3
Minor and electives	9	Minor and electives	9
	18		18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Math. 251	3	Math. 252	3
Minor and electives	15	Minor and electives	15
	18		18

*Men required to take both military science and tactics or air science and physical education should postpone taking science until the second or third semester. A distribution requirement may then be taken in the Freshman year.

Courses of Instruction

Pre-College

The following two courses are offered to enable students to remove entrance conditions in mathematics. Each course meets three time per week throughout the school year. Neither course carries University credit, although each is considered equivalent to three hours per semester in calculating student loads.

0. Elementary Algebra. I and II. ½ unit per sem. A two-semester course equivalent to first-year high school algebra. Staff

1. Plane Geometry. I and II. ½ unit per sem. A two-semester course equivalent to high school plane geometry. Staff

Lower Division

2. Algebra. I, II. 3 hr. 1 unit of algebra. Staff

3. College Algebra. I, II. 3 hr. PR: 1½ units of algebra (or Math. 2) and 1 unit of plane geom. Staff

4. Plane Trigonometry. I, II. 3 hr. PR: 1½ units of algebra (or Math. 2), and 1 unit of plane geom. Staff

5. Analytical Geometry. I, II. 4 hr. PR: Math. 3, 4. Staff

6. Arithmetic for Teachers. I, II. 3 hr. Staff

7. Solid Geometry. I, II. 3 hr. PR: Plane geom. Staff

8. Elementary Mathematics. I, II. 3 hr. PR: 1 unit of algebra. For students planning to major in Economics or Business Administration. Staff

21, 22. Introduction to Mathematics. I, II. 3 hr. per sem. PR: 1 unit of algebra. Reasoning, development of elementary mathematics, function and limit concepts, topics in modern mathematics, the nature of mathematics and its relation to modern civilization. Mr. Peters

Upper Division

106. Descriptive Astronomy. II. 3 hr. Mr. Cochran

107. Differential and Integral Calculus. I, II. 4 hr. PR: Math. 5. Staff

108. Differential and Integral Calculus. I, II. 4 hr. Continuation of Math. 107. Staff

216. Astronomy for Teachers. S. 3 hr. PR: Math. 5. Introduction to astronomy with special emphasis on the needs of physical science teachers and science club directors. Not open to students with credit for Math. 106. Mr. Cochran

220. Numerical Analysis. II. 3 hr. PR: Math. 108. The composition, propagation and generation of error. Matrices and linear equations. Nonlinear equations and systems. Proper values and vectors of a matrix polynomial. Trigonometric and exponential interpolation. Numerical integration and differentiation. The Monte Carlo Method. Mr. Posey

232. Mathematical Statistics. II. 3 hr. PR: Math. 108. Discrete and continuous variables; correlation, regression, sampling theory, normal, chi-square, t, and F distributions; significance tests; analysis of variance. Mr. Lowenberg

235. Foundations of Algebra and Analysis. II. 3 hr. PR: Math. 108 or consent. Development of the natural numbers, integers, rational, real and complex numbers from the axioms of Peano. Cardinal and ordinal arithmetic. The equivalence of the axiom of choice, Zorn's Lemma and the well ordering theorem. The algebra of classes. Mr. Posey

238. Modern Geometry for Teachers. S. 3 hr. PR: Math. 108 or consent. For high school teachers. Extension of traditional Euclidean plane geometry. Geometry of points, lines, triangles, and circles; similarity, inversion, and polars. Mr. Cochran

240. Differential Equations. I, II. 3 hr. PR: Math. 108. First course. Types of ordinary differential equations of first or higher degree and of first or higher order. Solutions and applications. Not open to students with credit for Math. 253. Staff

241. Theory of Determinants and Analytic Geomftry of Space. S. 3 hr. PR: Math. 108. Properties of determinants; application to analytic geometry of three dimensions. Types of algebraic surfaces, particularly quadratic surfaces; different coordinate systems. Staff

243. Projective Geometry. II. 3 hr. PR: Math. 246. Projective, affine, and metric geometries of the line, plane, and space; conics and quadrics. Mr. Davis

244. Theory of Equations. S. 3 hr. PR: Math. 108. Complex numbers, division, factorization and other properties of polynomials in a field. Theory of equations in the field of rational numbers; in the field of real numbers. Elimination, resultants, and symmetric functions. Algebraic extensions of a field. Algebraically closed fields. Ruler and compass constructions. Mr. Vest

245. Vector Analysis. I. 3 hr. PR: Math. 240 or 253. Vector definitions and operations, differentiation, operator del, integration, generalized coordinates, irrotational and solenoidal vectors, electrostatic fields, potentials. Staff

246. Introduction to Algebraic Theories. II. 3 hr. PR: Math. 108 or consent. Polynomials, elementary transformations on rectangular matrices, equivalence of forms and matrices, linear spaces, and matric polynomials; groups, rings and fields. Mr. Peters

247. Theory of Numbers. S. 3 hr. PR: Math. 108. Divisibility, distribution of primes, theory of congruences, theory of quadratic residues, arithmetical properties of the roots of unity. Diophantine equations, and the prime number theorem. Mr. Cochran

248. History of Mathematics. S. 3 hr. PR: Math. 5. Ancient Near East arithmetic. Euclid's geometry. Algebras of Babylonians, of Cardano and Tartaglia, non-Eculidean geometry, Descarte's work, contributions of Newton and Leibnitz. Mrs. Easton

251. Advanced Calculus. I. 3 hr. PR: Math. 108. Partial differentiation, Euler's theorem, Taylor's series, Jacobians; maxima and minima, Lagrange's multipliers; multiple integrals; line and surface integrals. Staff

252. Advanced Calculus. II. 3 hr. PR: Math. 251. Continuation of Math. 251. Limits and indeterminate forms; infinite series; improper integrals; applications of uniform convergence; Gamma and Beta functions; Stirling's formula; Fourier series. Staff

253. Advanced Course in Applied Mathematics. I. 3 hr. PR: Math. 108. Ordinary differential equations with emphasis on linear equations; infinite series, Fourier series, solutions of ordinary differential equations by infinite series. Applications to engineering problems. Not open to students with credit for Math. 240. Staff

254. Advanced Course in Applied Mathematics. II. 3 hr. PR: Math. 253. Elliptic integrals, Gamma and Bessel functions, partial derivatives, differentiation under integral sign, partial differential equations, vectors, applications to vibrating strings, heat flow, electrical flow. Mr. Vest

255. Mathematical Astronomy. II. 3 hr. PR: Math. 106, 240. Development of the implications of Kepler's Laws and Newton's Law of gravitation. Mr. Cochran

256. Introduction to Complex Variables. II. 3 hr. PR: Math. 215. An introductory course intended primarily for students in engineering and physics. Elementary principles, conformal mapping, and applications. Mr. Vehse

261. Special Topics. S. 3 hr. PR: Math. 108 or consent. Primarily for teachers. Useful topics not covered in the regular required course. Content may vary with the needs of the student. Staff

Graduate Division

308. Theory of Probability. I. 3 hr. PR: Math. 108. Fundamental theorems. Development of density and distribution functions in the discrete and continuous cases. Classical problems and solutions. Moments, characteristic functions, limit theorems. Applications. Mr. Stewart

309. Group Theory. II. 3 hr. PR: Math. 246 or consent. Order, index, coset, normal subgroup, factor group, homomorphism; direct product; fundamental theorem of Abelian groups; and Jordan-Holder theorem. Mr. Peters

311. Point-set Topology. I. 3 hr. PR: Math. 252. Transfinite cardinal numbers, well-ordered sets, transfinite ordinal numbers, closed and perfect sets, measurable point sets in Borel sense; applications to Riemann and Lebesgue integrals. Mr. Posey

312. Introduction to Combinatorial Topology. II. 3 hr. PR: Math. 252. Linear graphs, two-dimensional complexes and manifolds, n-dimensional complexes and manifolds, orientable manifolds. The fundamental group and certain unsolved problems. Mr. Posey

313. Advanced Differential Equations. II. 3 hr. PR: Math. 240, 252. Second-order linear equations, Riccati equations, complex variables. Series solutions. Equations of Fuchsian type, hypergeometric equation, confluence of singularities. Classical equations, applications. Mr. Vest

314. Tensor Analysis. II. 3 hr. PR: Math. 245, 252. Vector concept developed from standpoint of algebraic invariants, surface geometry, tensor operators, curvature tensor. Ricci and Bianchi identities, applications of tensors to physical phenoma. Mr. Stewart

315. Calculus of Variations. II. 3 hr. PR: Math. 240, 252. Maximum and minimum value of an integral, shortest distance, the brachistochrone problem, surfaces of revolution of minimum area, conditions for a relative minimum. Applications. Mr. Vehse

351, 352. Algebraic Geometry. I, II. 3 hr. per sem. PR: Math. 243, 246. Characteristic properties and representations of curves and surfaces, algebraic correspondences; linear systems; enumerative geometry. Mr. Cunningham

353. Linear Algebra. II. 3 hr. PR: Math. 246 or consent. Review of theory of groups and fields: linear vector spaces including the theory of duality; full linear group; bilinear and quadratic forms; and theory of isotropic and totally isotropic spaces. Mr. Peters

357. Fourier Series and Partial Differential Equations. I. 3 hr. PR: Math. 240 (or 253), 252. Introductory material, partial differential equations of physics, orthogonal sets; solving boundary value problems by Fourier series and integrals; uniqueness of solutions; Bessel functions, Legendre polynominals. Mr. Vest

358. Operational Methods in Partial Differential Equations. II. 3 hr. PR: Math. 240 (or 253), 252. Laplace transformation, properties and elementary applications; problems in partial differential equations, complex variable; problems in heat conduction, mechanical vibrations, etc. Sturm-Liouville systems. Fourier transforms. Mr. Vest

360, 361. Differential Geometry and Theory of Surfaces. I, II. 3 hr. per sem. PR: Math. 240, 243. Metric properties of space curves and surfaces by differential methods. Parametric representation, curvature, torsion, trihedrons, geodesics, transformations, conformability, developability, ruled surfaces, etc. Mr. Davis

362, 363. Introduction to Modern Algebra. I, II. 3 hr. per sem. PR: Math. 246 or consent. Review of concepts from set theory and the system of natural numbers; semi-groups; rings, integral domains and fields; extensions of rings and fields; elementary factorization theory; groups with operators; modules and ideals; and lattices. Mr. Peters

364, 365. Theory of Functions of Complex Variables. I, II. 3 hr. per sem. PR: Math. 240, 252. Complex numbers; functions of a complex variable; fundamental theorems of Cauchy; conformal representation with applications; analytic continuation; calculus of residues, Gamma, Bessel, and elliptic functions. Mr. Vehse

366, 367. Higher Plane Curves. I, II. 3 hr. per sem. PR: Math. 241, 243. Algebraic plane curves. General theory of curves, singularities, relationships, associated curves; detailed study of curves of third and fourth order. Staff

372, 373. Line Complexes and Cremona Transformations. I, II. 3 hr. per sem. PR: Math. 241, 243. Line coordinates, null system, systems of complexes, congruences, surface theory, and mapping. Plane Cremona transformations, introduction to general space theory, opportunities for research. Mr. Davis

374, 375. Algebraic Surfaces. I, II. 3 hr. per sem. PR: Math. 243. Mapping of quadric, cubic, quartic, and quintic surfaces on the plane; space transformations, equivalence, postulation; curves on a surface, adjoint systems, invariants. Mr. Davis

376, 377. Thoery of Functions of a Real Variable. I, II. 3 hr. per sem. PR: Math. 235, 246. Review of elementary point set concepts. Necessary and sufficient conditions under which operations of previous analytical subjects are valid. Different theories of integration. Mr. Cunningham

380. Thesis. I, II. 3 hr. Staff

NURSING EDUCATION

Associate Professor Oswald; Assistant Professor Henderson.

The Department of Nursing Education offers to graduate nurses a program which enables them to function more effectively as members of the nursing profession and as professional members of a democratic society.

Nursing Education has as its main objectives the preparation of students to meet the challenges presented in the varied, important, and increasing activites in the expanding field of health; the development in students with a wide interest in social and professional problems, with an ability to share in their solution for increased and enriched professional usefulness; and the preparation of students for democratic leadership and creative living in professional nursing and in the civil and social activities of their communities.

Pre-Nursing Curriculum

Students interested in professional nursing as a career and who plan to enter a collegiate school of nursing may take one, two, or more years of general college work as given in page 139.

Bachelor of Science in Nursing Education

Admission Requirements: Applicants for admission to the Department of Nursing Education must: (1) Meet requirements for admission to the College of Arts and Sciences; (2) be graduated from a state-accredited school of nursing; (3) be registered in one state or hold a temporary permit pending registration; (4) have experience in institutional, public health, or private-duty nursing; and (5) may be a senior student in a School of Nursing, selected by the School of Nursing and approved by the Department of Nursing Education and the College of Arts and Sciences.

Advanced Standing: Graduates of accredited schools of nursing may matriculate for this degree with advanced standing. Advanced standing may be granted for the following: (1) Basic nursing program in an accredited school of nursing. Each student's record will be evaluated individually and advanced standing given according to the content and quality of classroom and clinical instruction. An official transcript of the school of nursing record must be sent to the Registrar. Students who desire to matriculate with advanced standing should request a School of Nursing transcript form when they apply for admission. Thirty semester hours represent the maximum advanced standing allowed for a satisfactory basic diploma program in a hospital school of nursing. (2) Military credit—basic, four (Phys. Ed.) and advanced, six nonduplicate semester hours may be allowed for military service in World War II and Korea upon presentation of separation papers to the Registrar. (3) Credit for required courses completed with C or above grade in other accredited colleges or universities may be accepted for credit. Official transcripts of records of work must be sent to the University Registrar by other colleges, universities, or school of nursing.

Program Requirements: Candidates for the degree of Bachelor of Science in Nursing Education are required to complete at least 128 semester hours of credit with 256 grade points. The Nursing Education major includes at least 24 semester hours of professional or allied professional courses, 54 semester hours of general academic, scientific, and social subjects; a total of 58 semester hours of lower-division courses, including advanced standing credits in the basic nursing program; a total of 58 semester hours of upper-division courses, including the 24 hours required for the major, the 9 hours required for the minor, and the electives necessary to total 128 semester hours required for a Bachelor of Science Degree. With departmental approval, certain courses in education, sociology, social work, or psychology may be counted toward the major in Nursing Education.

REQUIRED COURSES

1. *General Courses Required*:

English Composition 1 and 2	6 hr.
English (any upper-division courses)	6 hr.
Foreign Language (any one foreign language)*	12 hr.
Science (any one Physical or Biological laboratory science)	8 hr.
Sociology 102 or 1 (and any other upper-division course)	6 hr.
Psychology 1 or 3 (and any other upper-division course)	6 hr.
History (or Humanities 1 and 2—8 hr.)	6 hr.
Physical Education	4 hr.

*Or two units for entrance and six hours in the same language at the sophomore level.

2. *Professional Courses Required*:

101—Introduction to Nursing Education or	
102—Principles and Methods of Teaching Nursing	3 hr.
103—Trends in Nursing	3 hr.
104—Ward Administration and Teaching	3 hr.
107—Guidance in Nursing ... or	
117—Interpersonal Relation Applied to Nursing	3 hr.
108—The Nurse and Community Relationships	3 hr.
113—Legislation and Jurisprudence Affecting Nursing	3 hr.
Electives in Nursing Education or closely allied subjects	4 hr.
	24 hr.

3. Major in Nursing Education: The non-specialized program leading to the degree of Bachelor of Science in Nursing Education was established to provide an opportunity for more thorough preparation of qualified graduate nurses to administer and supervise nursing services in a hospital unit. Such a program is fundamental to the understanding of administration, teaching and supervision, and serves as a basis for future graduate study, including clinical specialities. The major program offered at present is "Administration and Teaching in a Hospital Unit."

Courses of Instruction

Upper Division

101. Introduction to Nursing Education. I, II. 3 hr. PR: Psychology. Consent. An orientation course designed as an introduction to the philosophy, basic principles, methods and organization underlying all fields of nursing, with emphasis upon teaching, supervision, and administration in schools of nursing. Miss Oswald

102. Principles and Methods of Teaching Nursing. II. 3 hr. PR: Nurs. Educ. 104, consent. A study of basic principles and methods of teaching from the standpoint of nursing education, with emphasis on teaching of nursing, planning, construction, and evaluation of units of work and instruction. Miss Henderson

103. Trends in Nursing. I, II. 3 hr. PR: Consent. A prologue to the future in the study of rapid professional and social changes, of recent developments, of new perspectives, and of current problems in the struggle to achieve professional maturity in all fields of nursing, and of allied professions in their relation to the nurse, to professional organizations, and progress. Miss Oswald

104. Ward Administration and Teaching. I, II, S. 3 hr. PR: Consent. A study of the basic principles underlying good ward administration; effective supervision; efficient bedside and ward teaching; and the total patient care in the maintenance of high-quality nursing service. Evaluation of staff and students' competencies as applied to good nursing care. Discussion of the Head Nurses' responsibility for personal growth and development, and for civic and social obligations as a professional citizen and nurse in the community. Miss Henderson

106. Historical Foundations of Nursing. II. 3 hr. PR: None. A historical study and review of the origin, aims, and growth of nursing. Special emphasis on source material and its value as a basis for growth and development in the professional, educational, national, and international aspects of nursing and other healing arts. Miss Oswald

107. Guidance in Nursing. I, II. 3 hr. PR: None. A study of guidance principles and procedures applied to the needs and problems confronting students and graduate nurses in hospitals, other health agencies, and schools of nursing. Staff

108. The Nurse and Community Relationships. I, II. 3 hr. PR: None. Designed to meet the challenge of today. To increase professional and social usefulness by playing well the nurses' role on the health team wherever it may function, in homes, in institutions, agencies, or in the community. Miss Oswald

110. Evaluation in Nursing Education. II. 3 hr. PR: Nurs. Educ. 101 or 102, psychology, and consent. Basic concepts and philosophy of the evaluation of learning, and the central aim of education in a democratic society. Analysis and interpretation of techniques and tools of evaluation with emphasis on methods of teaching appropriate to the achievements of desired objectives, and the evaluation of teaching. Staff

111. Personnel Policies and Practices. I. 3 hr. PR: Consent. A critical study of the evaluation, formulation, and implementation of personnel policies and practices as related to democratic administration, economic security, and quality nursing care. Miss Henderson

112. Nursing Procedures and Routines. II. 3 hr. PR: Consent. A critical study of nursing procedures and routines already established to find ways to advance, to reinforce, and to keep abreast of new procedures. Emphasis on effective means of evaluation, construction, and administration of nursing procedures and routines. Miss Henderson

113. Legislation and Jurisprudence Affecting Nursing. I, II. 3 hr. PR: None. A survey of current legislation affecting nursing, including the State Board of Nurse Examiners and other state and federal legislation relating to nursing and nursing education. A critical study of jurisprudence and its legal implications for the nurse as a member of the nursing profession and as a citizen. Miss Oswald

114. New Developments in Nursing Care. I, II, S. 1-3 hr. PR: Consent. Designed around the general theme of improving basic nursing care in such areas as teaching, techniques, curriculum planning, social and health integration, and counseling and guidance technique effective in nursing. Miss Henderson

115. Problems in Nursing. S. 1-3 hr. PR: Consent. This course is planned to meet needs and interests of nurses active in Public Health, Industrial, and Institutional Nursing. Staff

117. Interpersonal Relations Applied to Nursing. I, II, S. 3 hr. PR: Consent. Designed to provide a better understanding of the dynamics of human behavior and basic principles underlying personality development in order to better understand self and others and gain increased skill in interpersonal relationships with patients, co-workers, and people in general. Miss Henderson

200. In-Service Education in Nursing. I, II, S. 3 hr. PR: Consent. A study of the philosophy and nature of various in-service programs, and ways and means of promoting continued professional development. Miss Henderson

216. Special Topics. 1-3 hr. PR: 10 hr. in Nursing Educ., consent. Designed to provide material for work conferences or formal classes in topics such as: interpersonal and public relations; supervision and teaching in nursing for hospital, public health, and industrial groups; rehabilitation; long-term chronic illness; communication competency; and other topics to meet current and critical needs of professional nurses, their patients, and community. Staff

PHILOSOPHY AND PSYCHOLOGY

Professors Curtis and Cresswell; Associate Professors Carruth, Cross, and Minor; Assistant Professors Berger, Decker, Rankin, Shafer, and Thomas; Instructors Hughes and Myer.

PHILOSOPHY

Philosophy has two main functions: (1) critical analysis of basic concepts, ideas, ideals, and beliefs: (2) organization of knowledge, and the development of patterns of tested belief for guidance of individual and institutional conduct.

Courses in philosophy are especially useful: (1) as a valuable background for policy-making positions in government, business, schools, and church; (2) as a preparation for work in the field of religion; (3) as an indispensable foundation for graduate training leading to teaching and research in philosophy; (4) as a general education providing conditions for the organization of knowledge and a clearer recognition of values.

PROGRAM FOR PHILOSOPHY MAJORS

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Philos. 4	3	Art, Lib. Sci.,		Hist. 1 or		Philos. 108 or	
English 1	3	or Speech	3	Humanities 1	3-4	113	3
Foreign Lang.	3	English 2	3	Philos. 106 or		Hist. 2 or	
Laboratory Sci.	4	Foreign Lang.	3	107	3	Humanities 2	3-4
Phys. Educ.	1	Laboratory Sci.	4	Foreign Lang.	3	Foreign Lang.	3
Mil. or Air Sci. 1	2	Phys. Educ.	1	Econ., Pol Sci.		Econ., Pol Sci.	
		Mil. or Air Sci. 2	2	or Soc. Sci	3-4	or Soc. Sci.	3-4
				Literature or		Literature or	
				Math.	3	Math.	3
				Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
				Phys. Educ.	1	Phys. Educ.	1
				(women)		(women)	
	16		16		16-19		16-19

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Psych. 1	3	Minor Subject	3	Philosophy Electives	6	Philosophy Electives	6
Philosophy Electives	3	Philosophy Electives	6	Minor Subject	3	Minor Subject	3
Minor Subject	3	Upper Division Electives*	6-9	Upper Division Electives*	6-9	Upper Division Electives*	6-9
Upper Division Electives*	6-9						
	15-18		15-18		15-18		15-18

At least 9 hrs. of work are to be chosen from each of the groups below:
a) Philos. 106, 112, 113, 205, 208, 218.
b) Philos. 107, 108, 114, 115, 118, 221.

*The following courses are highly recommended as cognate electives. A maximum of six hours from this list may be counted toward the major, with the adviser's consent, provided that at least 18 hours of philosophy courses are taken within the department: Econ. 210, 222; English 220, 225; Hist. 276, 290, 291; Pol. Sci. 170, 171, 272, 273.

PSYCHOLOGY

Courses in psychology are designed for one or more of the following ends: to promote a better understanding of human nature and behavior; to lay a foundation for graduate professional training; and to inculcate useful skills of psychological technology.

PROGRAM FOR PSYCHOLOGY MAJORS

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	Foreign Lang.	3	Foreign Lang.	3
Foreign Lang.	3	Foreign Lang.	3	Biol. 1 or Zool. 1	4	Biol. 2 or Zool. 2	4
Psych. 3	4	Psych. 4	4	Psych. 103	3	Psych. 104	3
Hist. 1 or Humanities 1	3-4	Hist. 2 or Humanities 2	3-4	Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Phys. Educ.	1	Phys. Educ.	1	Phys. Educ. (women)	1	Phys. Educ. (women)	1
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2	Econ.* or Soc. Sci.	3-4	Econ.* or Soc. Sci.	3-4
				Literature or Math.	3	Literature or Math.	3
	14-17		14-17		17-19		17-19

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Psych. 130	3	Psychology Electives	6	Psychology Electives	6	Psychology Electives	6
Psychology Electives	3	Minor Subject	3	Minor Subjects	3	Minor Subjects	3
Speech 11	3	Philos. 4 or 104	3	Upper Division Electives	6-9	Upper Division Electives	6-9
Minor Subject	3	Zool. 171	4				
Upper Division Electives	3-6						
	15-18		16		15-18		15-18

*Econ. 1 and 2 should be taken by those planning to enter personnel work or to minor in Economics.

Courses of Instruction

PHILOSOPHY

Lower Division

4. Introduction to Philosophy. I, II. 3 hr. Study of living issues in the field of philosophy: (1) philosophic development of scientific methods for gaining knowledge; (2) fundamental moral, aesthetic, and religious values for guidance in wise use of knowledge. Mr. Minor

Upper Division

104. Principles of Philosophy. I, II. 3 hr. An examination of two types of philosophy, naturalism and idealism, the consequences of which are in frequent conflcit today. A first course in philosophy primarily for juniors and seniors. (Not for those who have credit for Philosophy 4.) Mr. Cresswell

106. Logic. I. 3 hr. PR: Philos. 4 or 104. An examination of formal reasoning and scientific methods as means for attaining reliable knowledge. Mr. Cresswell

107. Personal Ethics. I. 3 hr. PR: Philos. 4 or 104. A search for the meaning and nature of right and wrong, the good and the bad in human conduct: (1) nihilism, the denial of ethics; (2) traditional theories of ethics; (3) recent research. Mr. Minor

108. Social Ethics. II. 3 hr. PR: Philos. 4 or 104. Critical analysis of conflicting social policies operating in family, educational, religious, economic, and political institutions in the interest of developing consistent principles for guidance of all institutions. Mr. Minor

112. History of Ancient and Medieval Philosophy. I. 3 hr. PR: Philos. 4 or 104. The history of philosophy brings together in connected form the ideals prized by the several periods in Western civilization which give meaning to the religious, political, social and literary achievements of each period. The first semester course ends with the 6th century. Mr. Cresswell

113. History of Modern Philosophy. II. 3 hr. PR: Philos. 4 or 104. Continuation of Philosophy 112, through the 19th century. Mr. Cresswell

114. Contemporary Philosophy. I. 3 hr. PR: Philos. 4 or 104. Critical study of existentialism and operationalism as systems for the guidance of man. Mr. Minor

115. Contemporary Philosophy. II. 3 hr. PR: Philos. 4 or 104. Critical study of dialectical materialism and democracy as systems for the guidance of man. Mr. Minor

118. Philosophy of Art. I. 3 hr. PR: Philos. 4 and 104. Study of aesthetics which examines the meaning and nature of art and beauty. Critical analysis of principles to guide the development of aesthetic perception, form, expression, and use in fine, industrial, and professional arts. Mr. Minor

205. Oriental Religions and Philosophies. I. 3 hr. PR: Two courses in philosophy, or consent. An account of the religions of India, China, and Islam with their supporting philosophies; and the influence of the major Oriental world views on the Western World. Mr. Cresswell

208. Philosophy of Religion. I or II. 3 hr. PR: Two courses in philosophy. An attempt to discover the logically defensible foundations of religion. Mr. Cresswell

210. Philosophy of Science. II. 3 hr. PR: Philos. 4 or 104. An examination of the methods, presuppositions and concepts of modern science. For students interested in the influences of science on contemporary thought and society. Mr. Cresswell

217. Metaphysics. I or II. 3 hr. PR: Philos. 4 or 104, 112 or 113. Study of a selected system of philosophy. Staff

221. Axiology. II. 3 hr. PR: Philos. 4 or 104 and 107 or consent. Study of the origin, nature, and growth of value as the basis of intelligent development of normative disciplines including the applied sciences, law, art, religion. Mr. Minor

PSYCHOLOGY

Lower Division

1. Introduction to Psychology. I, II. 3 hr. Principles of general psychology for non-majors. (Not for those who have credit for Psych. 3 and 4.) Staff

3, 4. General Psychology. I, II. 4 hr. Open to freshmen. Three hours of lecture and two hours of laboratory a week. Fundamentals of general psychology for majors or those using psychology to satisfy science requirements. Staff

20. Psychology of Personal Efficiency. I, II. 1 hr. For students whose scholastic achievement is below capacity. Diagnostic and remedial practice in areas which hamper personal or academic efficiency. For freshmen and sophomores; others by consent. Staff

Upper Division

103, 104. Experimental Psychology. I, II. 3 hr. per sem. PR: Psych. 3 and 4 or consent. Required of majors. Principles of general experimental psychology surveyed at the intermediate level. Staff

110. Applied Psychology. II. 3 hr. PR: Psych. 1 or 3 and 4. Applications of psychology in fields of law, medicine, education, and business. Mr. Decker

114. Psychology in Personnel Work. I. 3 hr. PR: Psych. 1 or 3 and 4. Techniques for selecting and placing personnel; job and worker analysis and classification interviewing; employment tests, merit rating, job evaluation. Mr. Decker

115. Psychology in Industry. II. 3 hr. PR: Psych. 1, or 3 and 4. Job training, leadership training, motivation and morale, human relations, safety, industry, and society. Mr. Curtis

116. Social Psychology. I. 3 hr. PR: Psych. 1, or 3 and 4. A study of the social factors which determine human behavior. The relationship of class, race, culture, social structure and other group phenomena to individual behavior. Other topics include: attitudes, public opinion, propaganda, mass media of information and national character. Mr. Rankin

122. Developmental Psychology. I. 3 hr. PR: Psych. 1, or 3 and 4. Growth trends in child behavior, including development in the physical, intellectual, emotional, social and personality areas. Mr. Berger

125. Mental Hygiene. I or II. 3 hr. Man's personality, needs and emotions as they relate to effective living in a modern world. Emphasis on those factors which lead to healthy psychological adjustment. A course useful for students in all curricula. Mr. Berger

130. Statistical Methods in Psychology. I. 3 hr. PR: Psych. 1, 3 and 4. Analysis and interpretation of psychological data. Mr. Thomas

201. Physiological Psychology. I or II. 3 hr. PR: Psych. 103, 104 and Zool. 171 or equiv. The organic basis for psychological activities such as perspection, emotion, motivation, and learning. Mr. Shafer

205. Individual Differences. II. 2 hr. PR: One course in psychology. Nature and extent of the differences among individuals in psychological traits such as intelligence and personality, as influenced by heredity, schooling, age, sex, culture. Primarily for students in psychology and education. Mr. Cross

206. Learning and Motivation. I or II. 3 hr. PR: Psych. 103, 104 or equiv. Survey of experimental data in the area of learning and motivation. Special emphasis on contemporary learning theory. Mr. Shafer

214. Job Analysis. I or II. 3 hr. PR: Psych. 114 or 115 or M.E. 140. Instruction and supervised practice in preparation and use of job analyses. For students of psychology, engineering, management, or rehabilitation counseling. Mr. Cross

216. Attitudes and Propaganda. II. 3 hr. PR: Psych. 1 or 3 and 4, or consent. Includes: the nature of attitudes and opinions, attitude measurement, opinion changing, propaganda use and analysis, the social psychology of mass media, democratic values and public opinion. Designed to meet the needs of students from a variety of fields as well as Psychology . . . . especially Sociology, Political Science and Journalism. Mr. Rankin

218. Psychology of Personality. I or II. 3 hr. PR: Two courses in Psych. or consent. Critical consideration of major theories of personality, including Freudian, neo-Freudian, learning theory, and trait theory. The basis and logic of personality theorizing will also be stressed. Mr. Rankin

225. Group Psychometric Testing. I. 3 hr. PR: Psych. 1, or 3 and 4, and 130. Theory underlying the construction of group tests of intelligence, aptitudes, interests, personality, and attitudes. Practice in administering, scoring, and interpreting them. Mr. Cross

226. Advanced Experimental Psychology. II. 3 hr. PR: Psych. 103, 104, 130. Lectures and laboratory. Design of psychological experiments; psychophysics of audition and vision. Mr. Shafer

229. Abnormal Psychology. II. 3 hr. PR: Psych. 1, or 3 and 4. A consideration of the major behavior anomalies, e.g., schizophrenia, psychopathic personality, organic psychoses, etc., and the various psychological, chemical, surgical, and medical treatments thereof. Field trip to mental hospital and demonstrations. Mr. Carruth

233. Problem Children. II. 3 hr. PR: Child or Educational psychology. Study of children who present psychological problems because of (1) exceptional mental retardation or advancement; (2) organic disabilities having behavior consequences, such as cerebral palsy or deafness: (3) disorders of conduct associated with a typical personality functioning. Of special interest to those who regularly deal with children as teachers, nurses, etc. Mr. Berger

236. Psychology of Adjustment. I. 3 hr. PR: Psych. 1, or 3 and 4, or consent. Dynamic principles of human personality adjustment. Mr. Berger

238. Introduction to Clinical Psychology. I or II. 3 hr. PR: Psych. 218, 236, or consent. The contribution of clinical psychology to understanding people. Foundation for advanced courses in clinical methods and skills. Of interest to advanced undergraduates and graduates in education, guidance, personnel, and social work as well as professionally oriented students in psychology. Mr. Carruth

240. History of Psychology. II. 3 hr. PR: Psych. 1, or 3 and 4. Traces the development of the science and concepts of psychology from their origin in philosophy, physiology and medicine up to the modern era. Mr. Thomas

242. Advanced Social Psychology. 3 hr. PR: Psych. 116 or graduate status. A consideration of contemporary theory and practice in social psychology. Mr. Rankin

245, 246. Seminar. I, II. 1 or 2 hr. Critical study of selected topics. Staff

260. Statistical Methods in Psychology. II. 3 hr. PR: Psych. 130 or equiv. Sampling theory, probability, further parametric and non-parametric statistics. Required for Master's Degree. Mr. Thomas

270. Group Dynamics. (Same as Sociology 270). I or II. 3 hr. PR: Introductory course in psychology or sociology, or permission. An interdepartmental course, combining psychological and sociological approaches, in which the dynamics of groups in operation are considered. The following subjects will be treated: leadership, informal communication and group pressures, the relation of group aims to group organization, and the effect of the group on personality. Attention is given to recent researches and to practical applications. Mr. Rankin and Mr. Silberstein

Graduate Division

301, 302. Special Problems in Research. I, II. 1-3 hr. per sem. Staff

303, 304. Thesis. I, II. 2-3 hr. per sem. Staff

305, 306. Directed Study. I, II. 2-4 hr. Directed reading and research in special areas. Staff

310. Projective Techniques. I or II. 3 hr. PR: Psych. 324, 326, and consent. Survey of the projective techniques used in psychodiagnostics, including the Thematic Apperception Test and the Rorschach Test. Special emphasis will be given the Rorschach Test. Mr. Berger

311. Practicum in Projective Techniques. I or II. 3 hr. PR: Psych. 310 or equiv. Supervised practice in scoring and interpretation of the Rorschach Test and the Thematic Apperception Test. Mr. Berger

314. Practicum in Industrial Interviewing. I. 3 hr. PR: Psych. 114 or 115. Includes a survey of literature concerned with industrial interviewing, a review of personal history data found to be significant in industrial selection, and intensive study of interview techniques, practice and recorded interviews, by the student with critiques by the instructor. Mr. Decker

316. Counseling and Psychotherapy. I or II. 3 hr. PR: Psych 324 and 229 or equiv. Principles underlying Freudian and non-directive therapy, play therapy and psychodrama. Mr. Carruth

317. Practicum in Counseling and Psychotherapy. I or II. 3 hr. PR: Psych. 316 or equiv. Supervised experience in psychotherapeutic techniques used by the psychologist in a clinic setting. Mr. Carruth

324. Individual Intelligence Testing. II. 4 hr. PR: Psych. 122 and 125, or Educ. 114 and 375, and consent. Theory and practice in Binet, Wechsler, and other individual tests of mental status. Mr. Berger

330. Systems of Psychology. II. 3 hr. PR: 1, or 3 and 4, and one course in philosophy. Staff

331. Theory Construction. II. 3 hr. Problems and techniques of organizing the data of psychology; philosophical background, problems of definition, logical structures and techniques employed. Staff

338, 339. Clinical Psychology. I, II. 4 hr. PR: Psych. 324 and consent. Supervised practice in use of psychological techniques in a clinic setting. Mental testing, interviewing parents, personality diagnosis, test interpretation and reports, play techniques with children, case presentations at staff meetings. Emphasis is on the multi-discipline approach at the University Counseling Center. Mr. Carruth

345, 346, 347, 348. Seminar. I, II. 1 or 2 hr. Critical study of selected topics. Staff

350, 351. Practicum in Student-Personnel Psychology. I, II. 1-3 hr. PR: Psych. 236 or consent. Diagnostic and remedial techniques for dealing with reading and work-study-skills efficiency, and personal-social-emotional adjustment. Mr. Cross

352. Practicum in Vocational Appraisal. I, II. 1-3 hr. PR: Consent. Principles and procedures in appraising educational and vocational fitness. Supervised practice in testing and counseling college students presenting educational and vocational problems. Mr. Cross

370. Rehabilitation Counseling: Seminar in Medical-Vocational Aspects. I. 2 hr. PR: 21 hr. in Social Sciences. Contribution of medicine in rehabilitation process from referral to vocational placement of the handicapped. Mr. McCauley

384. Rehabilitation Counseling: Seminar in Personnel-Vocational Counseling Aspects. II. 3 hr. PR: 21 hr. in the Social Sciences. Occupational information dealing with principles of placement of the handicapped in employment. Mr. McCauley

386. Rehabilitation Counseling-Special Problems and Workshops. II, S. 1-3 hr. Rehabilitation problems and techniques involving the more severe types of disablement such as blindness, mental deficiency, retardation, epilepsy. The course provides for special seminars and institutes for orientation and training of personnel employed in rehabilitation programs. Mr. McCauley

387. Rehabilitation Counseling-Field Work. I, II, S. 1-2 hr. PR: Educ. 374 or S.W. 301. Field practice in a rehabilitation setting in selected agencies under general direction of faculty and under direct supervision of agency supervisor, in a block or concurrent plan requiring 50 clock hours for each semester hour credit. Mr. McCauley

388. Introduction to Vocational Rehabilitation. I, II, S. 3 hr. Study of problem and extent of disablement, historical development and legal basis, concepts, processes, and case develpoment techniques in vocational rehabilitation as a public service to physically and mentally handicapped adults. Mr. McCauley

389. Rehabilitation Counseling-Non-Casework Aspects. II, S. 1 hr. PR: Psych. 387 (min. 5 hr.). Post field work class designed to clarify interpretations in concepts, processes, and casework problems in light of field work experience. Non-casework aspects of the counselor's role such as administrative responsibilities and public relations in rehabilitation programs. Mr. McCauley

PHYSICS

Professors Thomas and Ford; Associate Professor Rexroad; Assistant Professors Levine, Jefimenko, and Williamson; Instructors Farr and Michael; Instructors (part-time) Gwinn and Shefsiek.

Various courses offered in Physics are designed to meet the needs of students in Colleges of Education, Engineering, Arts and Sciences, Agriculture, and the School of Pharmacy.

Curriculum for A.B. Degree with Major in Physics

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2	Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Phys. Educ.	1	Phys. Educ.	1	Math. 107	4	Math. 108	4
English 1	3	English 2	3	Physics 109	2	Physics 110	2
Math. 3	3	Math. 5	4	Chem. 1	4	Chem. 2	4
Math. 4	3	French or		Language	3	Language	3
Physics 1†	4	German	3	Physics 113	3	Physics 114	3
		Physics 2†	4				
	16		17		18		18

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Math. (200)	3	Elective	3	Physics (200)	3	Physics (200)	3
Language	3	Elective	3	Physics (200)	3	Physics (200)	3
Physics (200)	3	Physics (200)	3	Elective	3	Elective	3
*Elective	3	Elective	3	Elective	3	Elective	3
Elective	3	Elective	3	Elective	3	Elective	3
Elective	3	Elective	3	Physics (200)	3	Seminar	
Seminar		Seminar					
	18		18		18		15

†An alternative is Chem. 1 and 2 in the freshman year in place of Physics, with Physics 111 and 112 in the sophomore year. Physics 113 and 114 must then be delayed.

*Electives should include:
6 hr. of History or Humanities
6 hr. of Economics, Political Science, or Social Science
3 hr. of Art, Home Economics, Library Science, or Speech

Curriculum for B.S. Degree with Major in Physics

The Bachelor of Science degree is designed for those students who expect to prepare for graduate work or to enter physics as a profession on completion of the bachelor's degree. A minimum of 139 credit hours are required for graduation.

The first two years of the curriculum for the B.S. degree are the same as for the A.B. degree above.

The third and fourth years of the curriculum follow:

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Math. (200)	3	Math. (200)	3	Elective	3	Physics (200)	3
Physics (200)	3	Elective	3	Physics (200)	3	Physics (200)	3
Physics (200)	3	Physics (200)	3	Physics (200)	3	Physics (200)	3
*Elective	3	Physics (200)	3	2nd Language	3	2nd Language	3
Language	3	Elective	3	Elective	3	Elective	3
Elective	3	Elective	3	Seminar		Seminar	
Seminar		Seminar					
	18		18		18		18

Physics 249, 250, 231, 233, and 234 are required for graduation with either degree. E.E. 250 and 252, and a second language (French, German, or Russian), are recommended electives.

Courses of Instruction

Lower Division

1. Introductory Physics. I. 4 hr. PR: Plane geom. and algebra. Required of all students whose curriculum calls for introductory physics. Mechanics, sound, heat. Staff

2. Introductory Physics. II. 4 hr. PR: Physics 1. Electricity, magnetism, and light. Staff

Upper Division

109, 110. A Problem Course in General Physics. I, II. 2 hr. per sem. Pre- or corequisite: Calculus. Open to students who have taken Introductory Physics or equivalent; not open to students who have taken General Physics. Mr. Shefsiek

111. General Physics. I, II. 5 hr. Pre- or corequisite: Calculus. Required of all students who major in mathematics. Not open to students who have credit for Introductory Physics. Mechanics, sound, and heat. Staff

112. General Physics. I, II. 5 hr. Continuation of Physics 111. Not open to students who have credit for Introductory Physics. Light, electricity, and magnetism. Staff

113, 114. Introductory Electronics. I, II. 3 hr. per sem. PR: 1 year of college physics. Mr. Michael

116. Photography. II. 3 hr. PR: 1 year of college physics, 1 year of college chemistry. The physics and chemistry of photography with practical application. Mr. Farr

117. Descriptive Meterology. I. 3 hr. PR: 1 year of college physics. Description of the atmosphere and its weather. Reading and analysis of weather maps. Weather observations. Mr. Williamson

118. Physical Meterology. II. 3 hr. PR: Physics 117 or equiv. The physics of the atmosphere. Analysis of surface and upper air charts. Forecasting. Mr. Williamson

201, 202. Special Topics. I, II. 1-3 hr. per sem. Staff

213. Introductory Electronics. S. 3 hr. PR: 1 yr. college physics. Primarily for Education majors, not for graduate credit for science majors. Mr. Michael

221. Optics. II. 3 hr. PR: 19 hours of college physics, calculus. Work with optical instruments, spectrometry, interferometry, and polarization. Mr. Ford

225, 226. Introduction to Modern Physics. I, II. 3 hr. per sem. PR: 10 hours of college physics, calculus. Particle analysis, phenomena connected with the structure of the atom. Mr. Ford

231, 232. Theoretical Mechanics. I, II. 3 hr. per sem. PR: 10 hr. college physics, calculus. Theorems and problems in intermediate mechanics. Mr. Williamson

233, 234. Introductory Electricity and Magnetism. I, II. 3 hr. per sem. PR: 10 hours physics, calculus. Electrostatic, magnetostatics, network analysis, introduction of electrodynamics, and applications. Mr. Jefimenko

241, 242. Physics Seminar. I, II. No credit. Required of Junior, Senior and Graduate physics majors. Staff

249, 250. Intermediate Laboratory. I, II. 3 hr. per sem. PR: 10 hours of college physics, calculus. Detailed techniques in experimental physics. Mr. Ford

254. Outline of Modern Physics. S. 3 hr. PR: 10 hr. college physics, 1 yr. college math. Selected topics in modern physics. Primarily for Education majors, not open to physics majors. Mr. Ford

255, 256. Work Shop for Physics Teachers. SI, SII. 2 hr. PR: 1 year of college physics, 1 year college mathematics. Techniques of apparatus construction and demonstration. Primarily for Education majors, not open to physics majors. Mr. Williamson

257. Photography. SI. 3 hr. PR: 1 year of physics or equiv. Primarily for Education majors, not open to physics majors. Mr. Farr

258. Light. SII. 3 hr. PR: 1 year of physics or equiv. Primarily for Education majors, not open to physics majors. Mr. Ford

261, 262. Molecular Physics. I, II. 3 hr. per sem. PR: Physics 225, 226. Molecular spectra, molecular structure and solid state physics. Staff

283. Thermodynamics. I. 3 hr. PR: 10 hours of college physics, calculus. Application of First and Second Laws of Thermodynamics to Physical systems. Mr. Levine

284. Kinetic Theory. II. 3 hr. PR: 10 hours of college physics, calculus. Boltzman distribution, viscosity, diffusion, thermal conductivity, specific heat. Mr. Levine

287, 288. Introduction to Mathematical Physics. I, II. 3 hr. per sem. PR: 10 hours of college physics, calculus. Boundary value problems in vibration, heat conduction, hydronamics, special relativity. Mr. Thomas

Graduate Division

371, 372. Advanced Classical Mechanics. I, II. 3 hr. PR: Calculus, Physics 231, 232. Lagrangian and Hamiltonian formulation of mechanics, Hamilton-Jacobi theory, small oscillations. Mr. Rexroad

379. Seminar in Coal Research. I, II. 1 or 2 hr. PR: Consent. Credit, 1 hr. per sem., maximum credit, 2 hr. (In cooperation with other departments and the U. S. Bureau of Mines). Staff

381, 382. Physical Optics. I, II. 3 hr. per sem. PR: Physics 221, differential equations. Mr. Ford

385, 386. Quantum Mechanics. I, II. 3 hr. per sem. PR: Physics 225, 226. Schroedinger's equations, hydrogen atom, perturbation, molecular forces. Mr. Levine

389, 390. Nuclear Physics. I, II. 3 hr. per sem. PR: Physics 225, 226. Theory of nuclear forces, transformation, energy levels. Mr. Thomas

391, 392. Advanced Electricity and Magnetism. I, II. 3 hr. per sem. PR: Physics 233, 234, differential equations. Wave propagation, electrodynamics of charged particles. Mr. Jefimenko

397, 398. Research. I, II. 1-6 hr. per sem. PR: Consent of supervising instructor. Staff

POLITICAL SCIENCE

Professors Frasure, Hein, Stewart, and Sturm; Associate Professor Williams; Assistant Professors Gilkey, Haythurst, Ross, Rossi, and White.

NATURE AND OBJECTIVES OF THE POLITICAL SCIENCE CURRICULUM

The political science curriculum provides a systematized course of study of the origin, basis, and nature of the state in its many and varied aspects. These include:

principles, organization, and structure of political institutions, both domestic and foreign; the processes and functioning of government; interrelationships between the political institution on various levels of government; political behavior; the control of government instrumentalities and the means for holding its agents responsible; and the identification and analysis of public problems falling within the range of government. Course offerings in the Department of Political Science provide a basic general knowledge of the field, as well as more extensive and intensive training in the specialized areas of political science, particularly on the senior and graduate levels.

Primary departmental objectives may be classified under four principal headings as follows:

1. To develop an understanding of the role of government in modern society, thus contributing to a general, liberal education and to preparation of students for a career in the public service.
2. To impart a basic knowledge and understanding of the techniques and processes of government and administration to those persons who look forward to a career in the public service.
3. To provide pre-professional training for students who are preparing to enter the legal profession.
4. To provide advanced and specialized instruction, as far as the Master of Arts degree, for persons who wish to enter teaching or research in the field of political science.

The political science curriculum, therefore, enables the major in this field to gain an understanding of the political society in which he lives and also to plan his academic program so as to prepare himself for a career of public service.

REQUIREMENTS FOR MAJORS

A. *The Undergraduate Major*

Hours. Undergraduate majors in political science are required to take at least twenty-six hours of upper-division course work in the department. There must be a first minor consisting of twelve hours of upper-division courses, normally in history, economics, sociology, psychology, or philosophy, and a second minor of six hours of upper division work in a related field.

Required Courses. Each undergraduate major is required to take Political Science 1 (3 hrs.) or 2 (3 hrs.) and Political Science 200 (2 hrs.) Departmental majors are encouraged to take both Political Science 1 and 2.

Distribution of Courses. The major in political science should work out his program in such a way as to secure a well-rounded knowledge of the field, as well as to concentrate in some particular area. Although the twenty-six hours of upper-division work in political science is the minimum requirement, students should take at least thirty-two hours.

The following are distribution requirements for an undergraduate major in political science:

1. At least one upper-division course in each of the six groups into which the offerings of the department are divided.
2. At least three upper-division courses in some one group.

Grouping of Upper-Division Courses by Fields

I. *American National, State and Local Government*
Pol. Sci. 111, 113, 120, 210, 211, 213, 221, 225, 226, 310, 311, 320-321, 325-326.

II. *Politics and Policy Development*
Pol. Sci. 130, 231, 232, 233, 234, 330-331.

III. *Public Administration*
Pol. Sci. 140, 241, 242, 243, 244, 245, 346-347.

IV. *Foreign and Comparative Government*
Pol. Sci. 150, 250, 251, 252, 253, 254, 255, 256, 351-352.

V. *International Relations, Organizations and Law*
Pol. Sci. 160, 261, 262, 263, 264, 361-362.

VI. *Political Theory*
Pol. Sci. 170, 171, 272, 273, 274, 375-376.

Courses Suggested for Political Science Majors

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3
Laboratory Sci.	4	Laboratory Sci.	4
Foreign Lang.	3	Foreign Lang.	3
Electives, Group 1	3-4	Electives, Group 1	3-4
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2
Phys. Educ.	1	Phys. Educ.	1
	14-17		14-17

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Pol. Sci. 1	3	Pol. Sci. 2	3
Foreign Lang.	3	Foreign Lang.	3
Hist. 52	3	Hist. 53	3
Econ. 1	3	Econ. 2	3
Psych. 1 or Sociol. 1	3	Philos. 4	3
Mil. or Air Sci. 3	2	Electives	1-2
Phys. Educ.	1	Mil. or Air Sci. 4	2
	17-19	Phys. Educ.	1
			17-20

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Pol. Sci. 150	3	Pol. Sci. 120	3
Pol. Sci. electives	3-6	Pol. Sci. electives	3-6
Elective, Group 3	3	Elective, Group 3	3
Elective, Group 4	3	Elective, Group 5	3
Elective, minors	3	Elective, minors	3
	17-19		17-19

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Pol. Sci. 170	3	Pol. Sci. 171	3
Pol. Sci. 200	2	Pol. Sci. electives	3-6
Pol. Sci. elective	3-6	Electives, minors	6-9
Electives, minors	6-9		
	17-18		17-19

Courses of Instruction

Lower Division

1. Elements of Democratic Government. I, II. 3 hr. Introduction to government. Origin, forms, and functions of the state; organization and forms of government; and the relations of groups and individuals to the state. Primarily for freshmen. Staff

2. The American Federal System. I, II. 3 hr. A survey course in American national government. Intended primarily for freshmen and sophomores. Staff

Upper Division

101. Introduction to Government. I, II. 3 hr. (Exclusively for students in the College of Agriculture and the College of Engineering). A consideration of the basic principles and operation of national, state, and local government in the United States. Staff

111. Functions of American National Government. I. 3 hr. The activities of the executive branch of government, particularly as they relate to social and economic development; expansion of governmental activities and services since 1932. Mr. Ross

113. American Constitutional Principles. II. 3 hr. U.S. Constitution as interpreted by the Supreme Court. Treatment is analytical rather than historical. Text supplemented by some leading cases. Primarily for pre-law students. Mr. White

120. State and Local Government. I, II. 3 hr. Survey of the legal basis, structure, and operation of state and local governments, their relations with each other and their place in the federal system. Mr. Hayhurst and Mr. Stewart

130. Political Parties and Electoral Processes. I. 3 hr. The nature of political parties. Public regulation of parties and electoral processes. A close examination of suffrage, nominating devices, campaign procedures, and the conduct of elections. Mr. Ross

140. Introduction to Public Administration. I. 3 hr. Introductory study of the development, organization, procedures, processes, and human relations factors of governmental administration in American democracy. Mr. Sturm

150. Contemporary European Governments. I, II. 3 hr. Comparative analysis by countries of constitutions, political structures, and functions, with major emphasis upon the United Kingdom, France, Russia, and West Germany. Mr. Williams

160. International Relations. I. 3 hr. Introduction to contemporary world politics. Just enough background to make present-day international affairs more understandable. Mr. Frasure

170. History of Political Thought: Plato to Machiavelli. I. 3 hr. Examination of major political ideas from the Greeks to sixteenth century with special emphasis upon development of natural law and western conception of justice. Mr. Williams

171. History of Political Thought: Machiavelli to Bentham. II. 3 hr. PR: Pol. Sci. 170 or consent. Analysis of the political ideas which developed from the separation of faith and reason, the culmination of this movement in rational integral liberalism, and the origins of modern conservationism as expounded by Edmund Burke. Mr. Williams

200. Research Materials and Techniques in Political Science. I. 2 hr. A study of basic source materials in political science and of the techniques and methods of governmental research. Required of Majors. Mr. Sturm

210. American Political Institutions. I. 3 hr. PR: Pol. Sci. 2 or consent. Development of the Constitution, Congress, the Presidency, and the Supreme Court as institutions with special attention to current problems and issues. Mr. Sturm

211. Problems of American National Government. II. 3 hr. This course is intended to give recognition to the major contemporary problems of government. Extensive reading of background materials as well as current literature in the field. Mr. Ross

213. American Constitutional Law and Theory. II. 3 hr. PR: Pol. Sci. 2 or consent. Basic principles of American constitutional law as developed through interpretation with special emphasis on constitutional theories and national development. Primarily for seniors and graduate students. Mr. Sturm

221. West Virginia Government and Administration. I, II. 3 hr. A study of the organization and operation of the state government of West Virginia. Mr. Sturm

225. Municipal Government. II. 3 hr. Legal basis, structure, operation, and problems of municipal government and municipal relations with other governmental units. Staff

226. Problems of State and Local Government. I. 3 hr. An examination of current problems of state, county, and municipal governments. Students are expected to have completed Pol. Sci. 120 or its equiv. Mr. Ross

231. History of Political Parties. I (odd-numbered years). 3 hr. An examination of the growth of political parties in the United States. Analysis of issues in presidential campaigns as they relate to political party development. Mr. Ross

232. Public Opinion and Propaganda. II (alternate years). 3 hr. Analysis of techniques of sampling and measuring public opinion; detection of propaganda; the nature of propaganda and methods of the propagandist. Mr. Ross

233. Current Political Issues. I (even-numbered years). 3 hr. An examination of political party platforms and the major issues of the political campaign. Students will be expected to examine background materials thoroughly. Mr. Ross

234. The Legislative Process. II (alternate years). 3 hr. Structure and organization of legislative bodies. Powers of legislature. Detailed study of lawmaking procedures. The influence of outside forces. Mr. Ross

241. Administrative Organization and Management. II (alternate years). 3 hr. PR: Pol. Sci. 140 or consent. Analysis of administrative organization and reorganization and of such management functions as leadership, planning, coordination, public relations, and management improvement. Mr. Sturm

242. Financial Administration. I (alternate years). 3 hr. PR: Pol. Sci. 140 or consent. Survey of methods and problems of fiscal management, including budgeting, accounting, tax administration, expenditure control, auditing, purchasing, and financial organization. Staff

243. Public Personnel Administration. II (alternate years). 3 hr. PR: Pol. Sci. 140 or consent. Survey of the development of public personnel management, with attention to organization, recruitment, classification, training, morale, unionism, and other aspects of personnel administration. Staff

244. Administrative Law and Regulations. II (alternate years). 3 hr. PR: Pol. Sci. 140 or consent. Study of the law of administration, primarily by the case method, covering administrative powers, procedure in administrative adjudication and rule-making, discretion, judicial control, and administrative liability. Mr. Sturm

245. Public Administration and Policy Development. I (alternate years). 3 hr. PR: Pol. Sci. 140 or consent. Analysis of decision-making and policy development in the administrative process by the case method. Staff

250. Comparative Government. I. 3 hr. An examination of the leading problems of government organization, constitutional framework, political parties and public opinion, and administrative procedures in several countries with emphasis on the United States, United Kingdom, France, Germany, and Russia. The subject is examined topically dealing with each problem in several countries. Mr. Williams

251. Modern Dictatorships. II. 3 hr. Politically undemocratic governments. Provides background of dictatorships generally, followed by treatment of several modern dictatorships. Mr. Frasure

252. British Government and Politics. II (alternate years). 3 hr. Intensive study of British government with emphasis upon both internal and external policies, primarily during the twentieth century. Mr. Frasure

253. Contemporary Governments of the Commonwealth. II (alternate years). 3 hr. A survey of imperial organization and Dominion status; a comparative study of the nature and development of political institutions in Canada, Australia, New Zealand, and South Africa. Mr. Williams

254. Governments of Asia. I (alternate years). 3 hr. A survey of contemporary politics and governments of Asia. Staff

255. Governments of Latin America. II (alternate years). 3 hr. A comparative study of the major nations of Latin America. Staff

256. Governments of the Middle East. I (alternate years). 3 hr. An examination of governments and political forces of the Middle East. Staff

261. International Organization. II. 3 hr. Emphasis will be placed upon agencies created since the close of World War II. Some reference to development of international law and League of Nations. Mr. Frasure

262. Specialized Agencies of the United Nations. II. 3 hr. A detailed treatment of the specialized agencies and related institutions. Mr. Frasure

263. Public International Law. I. 3 hr. Law governing relations among nations, including development of rules, means of enforcement, and conflicts between theory and practice. Mr. White

264. Conduct of American Foreign Relations. I. 3 hr. An attempt will be made to determine the factors behind our foreign policy with emphasis upon policy during the twentieth century. Mr. Frasure

272. Recent and Contemporary Political Thought. I. 3 hr. PR: Pol. Sci. 171 or consent. An examination of integral liberalism and the forces leading to the decline of liberalism and a critical analysis of the fascist and communist ideologies with their threat to the traditions of western civilization embodied in Christianity and conservatism. Mr. Williams

273. American Political Theory. II (alternate years). 3 hr. PR: Pol. Sci. 171 or consent. A survey of major political ideas and their influence upon society and government from the seventeenth century to the present. Mr. Williams

274. Problems in Contemporary Political Thought. II (alternate years). 3 hr. An intensive study of current trends in political thought through examination of the works of contemporary writers. Mr. Williams

281. Government and Business. 3 hr. PR: Pol. Sci. 2 or consent. An examination of government regulations of the economy dealing with the origin and development of public policies, constitutional and policial basis of regulation, relationships between political and economic institutions and processes, and an evaluation of the consequences of regulatory policies. Mr. Hayhurst

Graduate Division

310-311. Directed Reading and Research in American National Government. I, II. 2-4 hr. each. Mr. Stewart

320-321. Directed Reading and Research in State Government. I, II. 2-4 hr. each. PR: Pol. Sci. 120 or consent. Mr. Hayhurst

325-326. Directed Reading and Research in Local Government. I, II. 2-4 hr. PR: Pol. Sci. 225 or consent. Mr. Hayhurst

330-331. Directed Reading and Research in Politics. I, II. 2-4 hr. PR: Pol. Sci. 130 or consent. Mr. Ross

346-347. Directed Reading and Research in Public Administration. I, II. 2-4 hr. each. PR: Pol. Sci. 140 or consent. Mr. Sturm

351-352. Directed Reading and Research in Comparative Government. I, II. 2-4 hr. each. Mr. Frasure and Mr. Williams

361-362. Directed Reading and Research in International Relations. I, II. 2-4 hr. each. Mr. Frasure

375-376. Directed Reading and Research in Political Theory. I, II. 2-4 hr. each. Mr. Williams

380. Thesis. I, II. 2-6 hr. Staff

ROMANCE LANGUAGES AND LITERATURES

Professor Manning; Associate Professors McBride and Singer; Assistant Professors Herrera and Wade; Instructors Beauchemin, Cantillano, Flasher, and Frere.

Courses 1 and 2 or two years of high-school credit will be required for entrance to courses 5 and 6. Usually students who have had two years' study of the language in high school should take courses 5 and 6. Students who have done three years of work in high school should consult the departmental adviser before enrolling.

Students whose grades have consistently fallen below "B" in language work in the lower division should not select a Romance Language as a major subject.

The following courses are recommended as a minor if a speaking knowledge of the language is desired; French 103, 104, 109, 110, and 231; Spanish 103, 104, 109, and 110.

In order to be recommended by this department for the degree of Bachelor of Arts a student must complete, in addition to special requirements for the A.B. degree, one of the programs outlined below.

Program for French Majors

Required language courses: (a) French 103, 104, 109, 115, 116, 118, 217, and 231; (b) Spanish or Italian (6 to 12 hours).

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3
Lab. Science	4	Lab. Science	4
French 5*	3	French 6*	3
Hist. 1 or Humanities 1	3-4	Hist. 2 or Humanities 2	3-4
Phys. Educ.	1	Phys. Educ.	1
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2
Elective	3	Elective	3
	14-17		14-17

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
French 103	3	French 104	3
Span. 1 or Ital. 1	3	Span. 2 or Ital. 2	3
Pol. Sci. 1 or Soc. Sci. 1	3-4	Pol. Sci. 2 or Soc. Sci. 2	3-4
Electives Group 5	3	Electives Group 4	3
Phys. Educ.	1	Phys. Educ.	1
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Electives	0-3	Electives	0-3
	17-18		17-18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
French 109	3	French 231	3
French 115	3	French 116	3
Minor subject and electives	12	Minor subject and electives	12
	17-18		17-18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
French 118	3	French 217	3
Minor subject and electives	15	Minor subject and electives	15
	17-18		17-18

*If a student has not had French in high school he will take French 1 and 2 in first year and will take French 5 and 6 concurrently with French 103 and 104 in second year.

Program for Spanish Majors

Required language courses: (a) Spanish 103, 104, 109, 110, 211, 212, 221, and 222: (b) French or Italian (6 to 12 hours).

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3
Lab. Science	4	Lab. Science	4
Spanish 5*	3	Spanish 6*	3
Hist. 1 or Humanities 1	3-4	Hist. 2 or Humanities 2	3-4
Phys. Educ.	1	Phys. Educ.	1
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2
Elective	3	Elective	3
	17-18		17-18

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Spanish 103	3	Spanish 104	3
Fr. 1 or Ital. 1	3	Fr. 1 or Ital. 1	3
Pol. Sci. 1 or Soc. Sci. 1	3-4	Pol. Sci. 2 or Soc. Sci. 2	3-4
Electives Group 5	3	Electives Group 4	3
Phys. Educ.	1	Phys. Educ.	1
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Electives		Electives	
	17-18		17-18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Spanish 109	3	Spanish 110	3
Spanish 211	3	Spanish 212	3
Minor subject and electives	12	Minor subject and electives	12
	17-18		17-18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Spanish 221	3	Spanish 222	3
Minor subject and electives	15	Minor subject and electives	15
	17-18		17-18

*If a student has not had Spanish in high school he will take Spanish 1 and 2 in first year and will take Spanish 5 and 6 concurrently with Spanish 103 and 104 in second year.

Courses of Instruction

FRENCH

Lower Division

1. Elementary French. I, II. 3 hr. Staff

2. Elementary French. I, II. 3 hr. Continuation of French 1. Staff

5. Intermediate French. I, II. 3 hr. Reading of modern French prose. Staff

6. Intermediate French. II. 3 hr. Continuation of French 5. Staff

Upper Division

103. Elementary Conversation. I. 3 hr. PR: 12 hr. of French or equiv. Open to exceptional sophomores by permission of department head only. Staff

104. La Langue Pratique. II. 3 hr. PR: 12 hr. of French or equiv. Open to exceptional sophomores by permission of department head only. Staff

109. Grammar and Pronunciation. I. 3 hr. PR: 12 hr. of French or equiv. Miss Wade

110. Advanced Conversation. II. 3 hr. PR: French 109 or equiv. Staff

115. The Classical School. I. 3 hr. PR: 12 hr. of French or equiv. Mr. Manning

116. Literature of the Eighteenth Century. II. 3 hr. PR: 12 hr. of French or equiv. Mr. Singer

118. Literature of the Nineteenth Century. I. 3 hr. PR: 12 hr. of French or equiv. Mr. McBride

*151. French for Elementary Schools. I. 3 hr. PR: French 103, 104 or French 109, 110 or equiv. An intensive study of conversational French for use in the elementary schools, with emphasis on pronunciation and common usage. Observation and practice. Staff

*152. French for Elementary Schools. II. 3 hr. Continuation of French 151. Staff

217. French Civilization. I. 3 hr. PR: 12 hr. of French. Miss Wade

*221. The Romantic Movement. I. 3 hr. PR: French 115. Mr. Singer

*222. French Realism. II. 3 hr. PR: French 118. Mr. Singer

*229. Literature of the 16th Century. I. 3 hr. PR: 18 hr. of French. Staff

231. Phonetics and Pronunciation. II. 3 hr. PR: 18 hr. of French or equiv. Mr. Manning

*237. Moliere. II. 3 hr. PR: French 115. Staff

244. Explication de textes. II. 3 hr. PR: 18 hr. of French or equiv. Mr. Manning

*290. Old French. II. 3 hr. Mr. Manning

Graduate Division

393. Special Topics. I. 3-5 hr. Themes in French Literature and Culture. Staff

SPANISH

Lower Division

1. Elementary Spanish. I, II. 3 hr. Staff

2. Elementary Spanish. I, II. 3 hr. PR: Continuation of Spanish 1. Staff

5. Intermediate Spanish. I. 3 hr. Reading of modern Spanish prose. Staff

6. Intermediate Spanish. II. 3 hr. Continuation of Spanish 5. Staff

*Not given in 1959-60.

Upper Division

103. Elementary Conversation. I. 3 hr. PR: 12 hr. of Spanish or equiv. Open to exceptional sophomores by permission of department head only. Mr. Herrera

104. La Lengua Practica. II. 3 hr. PR: 12 hr. of Spanish or equiv. Open to exceptional sophomores by permission of department head only. Mr. Herrera

109. Grammar and Conversation. I. 3 hr. PR: 12 hr. of Spanish or equiv. Staff

110. Advanced Conversation. II. 3 hr. PR: Spanish 109, or equiv. Staff

*151. Spanish for Elementary Schools. I. 3 hr. PR: Spanish 103, 104 or Spanish 109, 119 or equiv. An intensive study of conversational Spanish for use in the elementary schools, with emphasis on pronunciation and common usage. Observation and practice. Mr. Herrera

*152. Spanish for Elementary Schools. II. 3 hr. Continuation of Spanish 151. Mr. Herrera

211. Nineteenth Century Literature to 1870. I. 3 hr. Spanish 5, 6 or equiv. Mr. Singer

212. Spanish Literature Since 1870. II. 3 hr. PR: Spanish 5, 6 or equiv. Mr. Singer

*216. Civilization and Culture. II. 3 hr. PR: 12 hr. of Spanish or equiv. Staff

*217. Spanish American Literature and Culture. I. 3 hr. PR: Spanish 5, 6 or equiv. Staff

*218. Spanish American Literature and Culture. II. 3 hr. Continuation of Spanish 217; PR: Spanish 5, 6 or equiv. Staff

*221. Literature of the Golden Age. I. 3 hr. PR: 18 hr. of Spanish, or equiv. Mr. Herrera

*222. The Golden Age after Lope de Vega. II. 3 hr. PR: Spanish 221. Mr. Herrera

*223. Estudios de Estilo. I. 3 hr. PR: 18 hr. of Spanish, or equiv. Staff

*224. Explicacion de Textos. II. 3 hr. PR: 18 hr. of Spanish, or equiv. Staff

*291. Cervantes. I. 3 hr. Mr. Singer

*295. Sixteenth Century Literature. I. 3 hr. Staff

*296. Old Spanish. II. 3 hr. Staff

Graduate Division

392. Special Topics. II. 1-3 hr. Themes in Spanish literature and culture. Staff

ITALIAN

Lower Division

1. Elementary Italian. I. 3 hr. Mr. Flasher

2. Elementary Italian. II. 3 hr. Continuation of Italian 1. Mr. Flasher

5. Intermediate Italian. I. 3 hr. Reading of modern Italian prose. Mr. Flasher

6. Intermediate Italian. II. 3 hr. Continuation of Italian 5. Mr. Flasher

Upper Division

*109. Composition and Conversation. I. 3 hr. Staff

*110. Advanced Conversation. II. 3 hr. Staff

*Not given in 1959-60.

RUSSIAN

Instructor PUSHKARSH

The courses in Russian are designed to enable the student to follow the scientific developments in Russia. The elementary courses will present the fundamentals of grammar; pronunciation, with some practice in conversation; and translation of simple scientific Russian in the fields of chemistry, physics, and medicine.

Lower Division

1. ELEMENTARY RUSSIAN. I. 3 hr. Mr. Pushkarsh
2. ELEMENTARY RUSSIAN. II. 3 hr. Mr. Pushkarsh
5. INTERMEDIATE RUSSIAN. II. 3 hr. Reading of modern Russian prose. Mr. Pushkarsh
6. INTERMEDIATE RUSSIAN. II. 3 hr. Continuation of Russian 5. Mr. Pushkarsh

SOCIAL WORK*

Professor FULTON; Associate Professor WHITNEY; Assistant Professors LIVERMORE and MUDD; Lecturers BATEMAN, HOBBS, JOHNSON, LAWLESS, MAHAN, MAXWELL, PICKETT, SLEETH, and WHITTLESEY; Associate in Psychiatric Social Work JACOBSON; Associate in Rehabilitation Social Work SAMMONS; Consultant in Medical Social Work and Rehabilitation MENDELSOHN; Coordinator of Rehabilitation Counselor Training MCCAULEY; Lecturers (part-time) in Social Work EDELSTON, ELLISON, and SACKS.

GENERAL STATEMENT

The Department of Social Work provides graduate professional education for social work, and an undergraduate curriculum.

Full professional education is necessary to assure a high quality of professional service. Likewise, it enables the student to find growth and satisfaction, to earn promotion, and take leadership in the profession.

To men and women interested in a service career, social work offers challenging experiences and rewarding opportunities for the use of intelligence and scientific knowledge, based on a sincere desire to be helpful. Social work offers a wide range of opportunities for employment and advancement. The present demand for social workers with training far exceeds the supply.

THE PROFESSIONAL CURRICULUM

Professional social work education is entirely on a graduate basis. The full two-year course leading to the Master of Social Work degree is accredited by the Council on Social Work Education. This curriculum prepares the student for practice in a variety of agencies in which social casework service is offered, including child welfare, probation and parole, family service and counseling, hospital and clinic social services, psychiatric social services, school social services, public assistance, vocational rehabilitation, church social services, international service agencies, home service work in the American Red Cross, Veterans Administration regional offices, and numerous others. Professionally educated workers possessing the necessary interest and capacities can move into positions involving supervision, consultation, administration, community organization, and research.

The goal of graduate education is to enable students to develop the skills with which people are effectively helped to live personally satisfying and socially useful lives and to solve their problems—individually, in groups, or as communities planning towards improved facilities for human welfare. For the development of these skills, the student must obtain understanding of personality development; of motivation for normal and deviate behavior; understanding of himself as affecting his capacity to help others; and knowledge of health and welfare resources in the community, how they are developed and used.

REQUIREMENTS FOR THE MASTER OF SOCIAL WORK DEGREE

The degree of Master of Social Work is conferred by the University upon those students satisfactorily completing the requirements as established by the Graduate

*For a full statement on professional education for social work, see the **Announcements** of the Department of Social Work.

School. For complete information as to the requirements, see the *Announcements of the Graduate School* or the *Announcements* of the Department of Social Work.

Requirements for the Professional Certificate of Social Work

The Professional Certificate of Social Work is awarded to students who may wish to have certification that they have completed approximately one-half of the training required for the Master of Social Work Degree. For further information, consult the *Announcements* of the Department of Social Work or the *Announcements of the Graduate School.*

Field Work

The two-year graduate curriculum includes alternating periods of study on campus and actual field work in social agencies. Field work is required of all candidates for the Master's Degree. It is an integral part of the curriculum, providing an opportunity for each student to develop skill in practice. In the actual doing, under careful supervision, the student can affirm, fix, and extend what he has gained in the classroom and library. Field work is designed to be an educational experience; it is provided jointly by the University and selected cooperating agencies. The faculty of the Department maintains close contact with each student and agency. Typically the student devotes to field work about half of the total time in training, in two different placements. These placements are made in public assistance, family counseling agencies, child-caring agencies, the medical departments of Veterans Administration regional offices and hospitals, psychiatric hospitals, mental health clinics, rehabilitation centers and other agencies. Assignments are made to the same agency for a period not less than one semester in length. In most instances, e.g., in preparing for social work in psychiatric, medical rehabilitation and other settings, second-year field work assignments are made to run continuously from mid-July through the following January, or similar six-month period. Placements are made in cities in West Virginia, Pennsylvania, Maryland, Ohio, and Virginia.

Scholarships and Educational Stipends

For undergraduate social work students, five Board of Governor's Scholarships are available, covering fees except those payable to state special funds and those chargeable to special services. Inquiry should be made to the Head of the Department of Social Work, or to the Scholarship Coordinator of the University.

For Social work students there are a number of scholarships, traineeships, and educational stipends available, ranging in value from $150 to $2400 per year. Please refer to the University *Catalog* or make inquiry to the Head of the Department.

The Undergraduate Pre-Professional Social Work Program

The undergraduate social work program leading to the degree of Bachelor of Science (Social Work) emphasizes liberal arts education. It offers, to juniors and seniors in the College of Arts and Sciences, a limited number of social work courses to be taken concurrently with a concentration in the social sciences, based on a lower division foundation of general education. It has been developed for three interest groups: (1) students who are preparing for graduate education in social work; (2) students who wish to qualify for positions for which graduate education is not now required; and (3) students who wish to acquire an understanding of the field of social work as part of their general education, or with a view to service on agency boards, committees, and community projects. Social work courses are available also to students from other departments who wish to include knowledge of this field in their preparation for teaching, school administration, educational counseling, psychology, recreation, nursing, rehabilitation counseling, etc.

The general plan of the preprofessional social work curriculum is: (a) two lower division years of general education, including beginning courses in the several social sciences; (b) two upper-division years during which the student concentrates in the social sciences and majors in the Department of Social Work. It is recommended that the student complete, during the four college years, a total of 50 or 60 hours in the social sciences, including political science, economics, sociology, history, social work and psychology. Social work courses totaling 10 to 12 hours are required.

Upon the completion of this curriculum and all other requirements of the College of Arts and Sciences, the student will be eligible for a Bachelor of Science Degree with a major in social work.

THE UNDERGRADUATE SOCIAL WORK CURRICULUM

Degree: Bachelor of Science (Social Work)

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3
Zoology 1	4	Zool. 2	4
Foregin Lang.*	3	Foreign Lang.*	3
Speech	3	Sociol. 1	3
Libr. Sci. 1	2	Hist. 2 or Humanities	2 3-4
Phys. Educ.	1	Phys. Educ.	1
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2
	16-18		17-18

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Literature	3	Literature	3
Foreign Lang.	3	Foreign Lang.	3
Hist. 52	3	Hist. 53	3
Psych. 1	3	Pol. Sci. 2	3
Econ. 1	3	Econ. 2	3
Phys. Educ.	1	Phys. Educ.	1
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
	16-18		16-18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Social Work 285	3	Social Work 221	3
Psych. 130	3	Sociol. 243	3
Psych. 125 or 236	3	Home Econ. 104 or Zool. 171	3
Pol. Sci. 120	3	English 125	3
Sociol. 104	3	Minor and Electives	3-6
Electives	1-3		
	16-18		15-18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Social Work 260	3	Social Work 212	3
Sociol. 202	3	Home Econ. 104 or Zool. 171	3
Pol. Sci. 140	3	Psych. 233 or 229	3
Psych. 122	3	Minor or Electives	7-11
Minor and Electives	6-8		
	16-20		16-20

*May be omitted if two units of high school credit and 6 hours of sophomore level courses in the same foreign language are offered by the student.

Admission Requirements

Upper Division

Students are admitted to the upper division in the Department of Social Work who have completed at least 58 semester hours at West Virginia University or in another accredited educational institution with a total of not less than 12 semester hours in economics, political science, psychology, sociology, and history; and have met all other requirements for transfer to upper division.

Graduate Division

Students are admitted for graduate study in the Department of Social Work who meet all of the following requirements:

1. Graduation with a bachelor's degree from West Virginia University or from another accredited institution.

2. Admission to the Graduate School.

3. Completion of the pre-professional curriculum at West Virginia University; or satisfactory completion of courses in social sciences, totaling at least 24 hours, including not less than 12 semester hours in one of the following fields; economics, political science, sociology, philosophy, psychology, or history. Students who have not fulfilled these social science requirements may be admitted on condition that they complete them before they become eligible for a graduate degree. The Head of the Department determines the selection of courses to meet the undergraduate deficiencies.

4. Approval by the Committee on Admissions of the Department, based on satisfactory evidence of personal characteristics and attainments which give promise of usefulness in the profession of social work.

Application Procedures

Upper Division

Application for admission to the Department is made on forms obtained from the Department. Students from institutions other than West Virginia University should (1) also request an application blank from the Registrar for admission to the University; and (2) request the registrar of the institution previously attended to send a complete official transcript directly to the Registrar of the University.

Graduate Division

Written application for admission to the Department of Social Work is made on forms which may be obtained from the Department. All applicants must also apply for admission to the Graduate School on a form supplied by the Registrar. Students from institutions other than West Virginia University must have a complete transcript of their credits forwarded to the Registrar.

Prospective student are requested to make application as far in advance of the date they wish to enroll as is possible. The Department regularly admits first-year students to enter in September. Second-year students are admitted to begin work in July (at the beginning of the second term of the Summer Session) or in September.

Courses of Instruction

General Prerequisites: Twelve semester hours in social sciences for Social Work courses in the 200 series; 24 semester hours in social sciences for Social Work courses in the 300 series. Such prerequisite courses may be taken in the following fields: economics, history, political science, general social science, sociology, and psychology. Social Work courses in the 200 series may be offered toward admission requirements for courses in the 300 series.

Upper Division [17]

151. Basic Social Statistics. I. 1 hr. The goal of the course is that the student master the meaning and use of basic descriptive statistical measures fundamental to social work practice. Frequency distributions. Measures of central tendency and variability. Ratios and percentages. Simple trends. Use of correlation. Lecture, discussion and exercises. Mr. Fulton or Mr. Edelston

212. Community Social Welfare Resources. II. 3 hr. PR: S.W. 221 and 260 or 285, or consent. A field visit to a health or welfare agency each week, with readings and class discussion coordinated with visits. Miss Livermore

215. Psychosocial Growth and Behavior. I. 2 hr. PR: 12 sem. hr. in social sciences. The psychosocial approach to understanding of personality development, with emphasis on the significance of the family, the school, and community programs in meeting children's needs. Consideration of common adjustment problems. Lecture and discussion. Mr. Whitney

221. The Field of Social Work. II, S. 3 hr. PR: 12 sem. hr. in social sciences. A survey of modern social services offered in various settings: family agencies, medical and psychiatric clinics and hospitals, schools, settlement houses, community chests and councils. Lecture, discussion, audio-visual aids, guest lecturers. Miss Livermore

260. Child Welfare. I. 3 hr. PR: 12 sem. hr. in social sciences. The mental health needs of children; services provided by public and private agencies to parents and children who need protection, assistance, foster care, adoption, or services in their own homes; historical background. Miss Livermore

285. Introduction to Public Welfare. I, S. 3 hr. PR: 12 sem. hr. in social sciences. An introduction to present-day public welfare programs including Public Assistance and Old Age, Survivors' and Disability Insurance; historical development, laws, administrative structures, financial patterns and services. Miss Livermore

[17]The preprofessional curriculum includes a major selected from among the following courses: Soc. Work 212, 221, 260, 285; Home Econ. 104, Nutrition and Home Management; Sociol. 202, Introduction to Social Research; Sociol. 243, Introduction to Anthropology; and Psych. 130, Statistical Methods in Psychology, or Soc. Work 151, Basic Social Statistics.

Graduate Division

301. Social Casework I. I. 3 hr. PR: Consent. An introduction to the objectives, basic concepts, generic principles and processes of the social case work method. Mrs. Ellison or Mr. Whitney

302. Social Casework II. S. 3 hr. PR: S.W. 301, 311-312, or consent. Continuation of S.W. 301. Social casework theory with special attention to helping students integrate classroom and library learning with field practices. Miss Mudd

303. Introduction to Social Group Work. I. 2 hr. PR: Consent. Principles and methods by which group workers help individuals to use group relationships for individual growth and for social well-being. Group work in community organization and administration. Mr. Sacks

304. Community Organization. II. 3 hr. PR: Consent. Community organization as a professional social work method, compared with and distinguished from other social work methods, e.g., social casework, social work administration. Community organization, responsibilities of the social worker in direct-service agencies, in professional societies, in planning, coordinating and fund-raising organizations, and as a citizen. Lay and professional components. Interagency and inter-disciplinary teamwork. Emphasis on generic concepts and principles. Mr. Fulton

306. The Social Services I. I. 3 hr. PR: Consent. A study of public and private welfare programs including historical background, administrative structures, patterns of financing services, eligibility requirements. Special emphasis on modern standards, extent of unmet needs, and progress toward meeting needs. Miss Livermore

307. The Social Services II. II. 3 hr. PR: S.W. 306. Further analysis and evaluation of social services in terms of individual and group needs which they are designed to meet, and in terms of accepted standards. Current issues are evaluated in each of several areas: social security, child welfare, mental health, medical care. Miss Livermore

311-312. Field Work. I, II, S. 5 hr. each. PR: S.W. 301. Field instruction and practice in selected agencies under general direction of the faculty and under direct supervision of agency supervisor or faculty members. Miss Mudd and Staff

314. Field Work. I, II, S. 1-4 hr. S. W. 301. Field instruction and practice in selected agencies under general direction of the faculty. Designed to supplement S.W. 311 and 312 as needed. Variable credit: at least 55 hours per sem. hr. of credit. Miss Mudd and Staff

315. Normal Development of the Individual. I. 2 hr. PR: Consent. Normal physical, emotional, psychological and social development; adaptation and change of the individual throughout the successive stages of life. Emphasis is placed in the mechanisms of maintaining balance under stress. Tendencies to deviation from the normal are indicated. Dr. Bateman and Mr. Whitney

320. Psychopathology. S. 2 hr. PR: S.W. 301, 315, 371. The application of psychodynamic principles to the study of emotional and mental illnesses. Consideration of the major organic and functional disorders. Dr. Lebeau and Mr. Whitney

322. Social Casework III. II. 2 hr. PR: S.W. 331-332. Emphasis on differentiated social study, diagnosis and treatment. Application of basic theory to complex client-problem situations in varied settings and in inter-disciplinary team approaches. Mr. Whitney

331-332. Advanced Field Work. I. 5 hr. PR: S.W. 302. Continuation of S.W. 311-312, usually in a different setting, with opportunities for deepening understanding and skill. Miss Mudd and Staff

334. Advanced Field Work. I, II, S. 1-4 hr. PR: S.W. 302. Continuation of S.W. 331 and 332 with opportunities for increasing and deepening the student's understanding and skills. Designed to supplement S.W. 331 and 332 as needed. Variable credit: at least 55 clock hours per sem. hr. of credit. Miss Mudd and Staff

351. Social Work Research I. I. 2 hr. Introduction to research and the scientific method. The scientific approach to social welfare problems; the scientific attitude toward all areas of social work. Elements of research method.
Mr. Fulton or Mr. Edelston

352. Social Work Research II. II, S. One or two sem. hr. per term or sem., total of 2 sem. hr. PR: S.W. 351. A continuation of S.W. 351, designed to extend and deepen the student's understanding of the social work research method and its relation to the practice of social work. Examples of current social work research are studied, including evaluative research. Mr. Edelston or Mr. Fulton

361. Social Agency Administration I. I. 2 hr. PR: Consent. Introduction to basic concepts and principles of the administrative process, with emphasis on the responsibilities of the social caseworker. Administration as social work practices; the unitary nature of social work. Democratic group process in administration. The development and utilization of policy; the employment process; personnel practices; job descriptions; records and reports; use of facilitating services; organization of own job. On-the-job relationships; responses to authority. Structure and dynamics of the private agency and public welfare unit; responsibilities of executive, supervisor, board and clerical staff as these relate to the job of the caseworker. Mr. Fulton

362. Social Agency Administration II. II. 1 hr. PR: S.W. 361 or consent. Further consideration of basic concepts and principles of administration needed by all social workers for effective professional participation in the work of social agencies. Mr. Fulton

363. The Executive Function in Administration. II. 1 hr. PR: S.W. 361 or consent. Major responsibilities of the executive. Leadership and group process. Selected problems relating to administrative structure; policy; employment; and effective use of personnel; budgeting; public relations; use of experts, etc. Mr. Fulton

371. Health, Disease, and Disability. I. 2 hr. PR: Consent. Designed to promote student understanding of the physical, emotional, social, economic, and cultural factors in individual and group responses to health, disease, and disability. Selected illnesses and disabilities are presented to exemplify their effects upon the individual in different periods of his life span and upon his family and community. Factors which may promote or retard health and effective rehabilitation are emphasized. Physician-social worker responsibility in the prevention, care, and treatment of illness and disability. Extra weekly discussion period for social work students.
Mr. Mendelsohn, Mrs. Sammons, Psychiatrist and Medical Lecturers

381. Problem Report. I, II, S. 1-3 hr. per sem. or term. Total required: 3 hr. Substantial exploration and discussion of a professionally significant problem. Required of all candidates for M.S.W. degree. Mr. Fulton and Staff

390. Seminar. II. 2 hr. PR: 30 sem.-hr. in graduate social work education. Selected areas of social work philosophy, theory, and practice. Analysis of different philosophies, methods, and settings to clarify what is generic to all and what is specific. Social work as a profession. Mr. Whitney

391. Seminar in Applied Psychodynamics. II. 1 hr. PR: S.W. 302, 315. Staff

392. Seminar in Community Organization. II, S. 1 or 2 hr. PR: S.W. 304 or equiv. Further analysis of community organization as social work practice. Current issues selected by students and instructor. Mr. Fulton

393. Seminar: Psychiatric Social Work. II. 1-2 hr. PR: Second-year status. Social work practice related to emotionally disturbed and mentally-ill children and adults in psychiatric hospitals and clinics. Emphasis on collaboration with psychiatrists and psychologists in care and treatment. Case studies are used.
Miss Jacobson

395. Seminar: Medical Social Work. II. 1-2 hr. PR: Second-year status. Principles of social work practice and their application in relation to the ill and disabled in hospitals, rehabilitation centers and other resources for care and treatment. Emphasis on social worker's responsibilities in relation to illness, restoration

to maximum health, rehabilitation, maintaining of health and prevention of illness. Emotional, social, and vocational implications of illness for patient and family. Case studies are used. Staff

The following coures are part of the Inter-Departmental Curriculum in Rehabilitation Counseling. The courses starred (*) are elective courses for social work students interested in rehabilitation of the physically and mentally handicapped.

370. Rehabilitation Counseling—Seminar in Medical-Vocational Aspects. I. 2 hr. PR: 21 sem.-hr. in social sciences. Contributions of medicine in the rehabilitation process from referral to vocational placement of the handicapped. Mr. McCauley

384. Rehabilitation Counseling—Seminar in Personnel-Vocational Counseling Aspects. II. 3 hr. PR: 21 hr. in social sciences. Occupational information dealing with principles of placement of the handicapped in employment. Mr. McCauley

385. Social Casework for Rehabilitation Counselors. I. 3 hr. PR: S.W. 301, 387 or consent. Follows a semester of full-time field work in a rehabilitation agency. Fuller consideration of basic concepts, principles and philosophy of the social casework method. Special attention to helping the student integrate theory with field experience. Staff

*386. Rehabilitation Counseling—Special Problems and Workshops. 1-3 hr. Course is designed to provide for concentrated study in special problems such as orientation of new vocational rehabilitation personnel, techniques in working with severe disablement, and special techniques in evaluating of the handicapped. Mr. McCauley

387. Rehabilitation Counseling-Field Work Training. 1-12 hr. PR: One semester of rehabilitation counseling, guidance, psychology or social work. Field practice in selected agencies, rehabilitation centers, clinics, or hospitals in a rehabilitation setting. Such practice will be under direct supervison of faculty and agency personnel. Variable credit; minimum of 50 clock hours per semester hour of credit. Mr. McCauley

*388. Introduction to Vocational Rehabilitation. 3 hr. A study of problem and extent of disablement, historical development and legal basis, concepts, processes in case development, techniques in vocational rehabilitation as a public service to the physically and mentally handicapped. Mr. McCauley

389. Rehabilitation Counseling—Problems and Non-Casework Aspects. 1 hr. PR: Minimum of 5 sem. hr. of field work training. Course is designed to provide post field work opportunity to clarify concepts, processes, and casework problems in light of field work experience. Mr. McCauley

SOCIOLOGY

Professor Gibbard; Assistant Professors Kerr, Silberstein, and Weller; Instructor Lucas.

The study of sociology should help the student increase his understanding of the society in which he lives. The work of an undergraduate major in sociology provides basic preparation for teaching social sciences in high school and for careers in social work and other fields involving interpersonal relations. The study of sociology should be an aid to citizenship and intelligent participation in modern life.

A major in sociology consists of 18 or more hours of upper-division courses including as a rule, Sociol. 202, *Introduction to Social Research,* Sociol. 243, *Introduction to Anthropology,* and Sociol. 246, *Types of Sociological Theory.* A course in statistics is strongly recommended. Students may count toward a sociology major Rural Sociol. 105, *Rural Life,* and Psych. 130, *Statistical Methods in Psychology.*

A student intending to major in Sociology may follow either the regular course curriculum (Option A) or the Integrated Studies (Option B) lower-division curriculum. If the Integrated Studies curriculum is followed, the student should take Sociol. 1 and 104 in his second year, in place of six hours of electives.

The following program is suggested for students who pursue the Option A curriculum:

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3
Foreign Lang.	3	Foreign Lang.	3
Laboratory Sci.	4	Laboratory Sci.	4
Electives		Electives	
Group 1	3-4	Group 1	3-4
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2
Phys. Educ.	1	Phys. Educ.	1
	14-17		14-17

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Sociol. 1	3	Sociol. 104	3
Foreign Lang.	3	Foreign Lang.	3
Speech 11 (either Sem.)	0-3	Speech 11 (either Sem.)	0-3
Psych. 1 (either Sem.)* or Psych. 3	0-3-4	Psych. 1 (either Sem.)* or Psych. 3	0-3-4
Econ. 1 or Pol. Sci. 1	3	Econ. 2 or Pol. Sci. 2	3
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Phys. Educ. (W)	1	Phys. Educ. (W)	1
Electives	0-4	Electives	0-4
	17-18		17-18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Electives		Electives	
Group 3 (if not fulfilled)	3	Group 3 (if not fulfilled)	3
Sociology electives	6	Sociol. 243	3
Minor subject elective	3	Sociology electives	6
Elective	8-9	Minor Subject electvie	3
		Electives	2-6
	17-18		17-18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Sociol. 202	3	Sociol. 246	3
Sociology elective	3	Sociology elective	3
Minor subject elective	3	Minor subject elective	3
Electives	8-9	Electives	8-9
	17-18		17-18

*If Psychology is not elected to fulfill the laboratory science requirement. Otherwise, courses which satisfy Group 3 requirements are recommended in place of psychology. If not met in the sophomore year, the Group 3 requirement may be satisfied in the junior year.

Courses of Instruction

Lower Division

1. Introduction to Sociology. I, II. 3 hr. Basic concepts; fundamental institutions and functions of society. Staff

Upper Division

Prerequisites for Sociology courses in the "200" series; Sociol. 1 or 102, or Social Sci. 1, 2 (or equivalents).

102. Principles of Sociology. I, II. 3 hr. Analysis of nature and operation of our society; formulation of sociological principles. (A first course mainly for upper-division students. Not for credit by students with credit for Sociol. 1). Staff

104. Social Problems. I, II. 3 hr. Examination, within a sociological framework, of such topics as labor-management relations, social class conflict, family disorganization and parent-child relations, race relations, juvenile delinquency and crime, religious adjustment, and social planning. Mr. Lucas and Mr. Weller

160. Family Living. I, II. 3 hr. A course without prerequisites, for students in all divisions of the University, to help them attain knowledge, values, and skills with respect to dating, courtship, mate selection, engagement, marriage, parenthood, and family life. Mr. Kerr

202. Introduction to Social Research. I. 3 hr. Trends in social research; examination and methods and techniques. Mr. Gibbard

205. Urban Sociology. II. 3 hr. Sociological analysis of institutional structure, social values, and individual goals in urban-industrial society; bureaucratization, collectivization, and mass culture; emphasis on political, economic, religious, and family institutions. Mr. Weller

206. Rural Sociology. I. 3 hr. Rural conditions, structures, processes, problems, trends, agencies. Staff

208. The Community. S. 3 hr. An analytical course intended chiefly to provide background data for students interested in programs of community action. Topics to be included are: the basic characteristics of communities; community institutions and resources; social cleavages within the community; and community survey and community planning. Mr. Gibbard

210. Marriage and the Family. I, II. 3 hr. Sociological analysis of the contemporary family and its problems. Mr. Kerr

211. Sociology of Childhood. II. 3 hr. Adjustment of child to American culture. Mr. Kerr

220. Social Change. I. 3 hr. Sociological analysis of the major changes now going on in our society, of the forces underlying them, and of the tensions to which they give rise. Alternative future directions; rational manipulation and planning for social change. Mr. Weller

229. Population and Migrations. I. 3 hr. Population theories; growth, composition, and distribution of American population; immigration and culture pluralism; internal migrations and their consequences. Mr. Gibbard

231. Race Relations. I. 3 hr. Race relations in the U.S. with emphasis on the American Negro. Mr. Gibbard

233. Criminology. I, II. 3 hr. Explanation of crime; critical study of criminal justice, penal methods, and reform movements. Mr. Weller

234. Juvenile Delinquency. S. 3 hr. A scientific study of the nature, extent, and causes of delinquency in the United States. Methods of treatment, correction, and prevention, with emphasis on the work of the juvenile courts. Mr. Weller

235. Collective Behavior. I. 3 hr. Analysis of new group formation and behavior following social dislocation, social unrest, crowd behavior, and other forms of social contagion; the public and public opinion; social movements. Mr. Silberstein

243. Introduction to Anthropology. II. 3 hr. Biological history of man, analytical study of social organization, culture, and intellectual life of primitive man. Mr. Lucas

244. Culture and Personality. II. 3 hr. Significant interrelations between the individual and his culture. Mr. Silberstein

246. Types of Sociological Theory. II. 3 hr. Examination of leading schools of sociological thought in our day. Staff

250. Human Relations in Industry. II. 3 hr. The sociology of industrial relations. The factory or business firm as a social system. Formal and informal relations within the plant. Mr. Gibbard

270. Group Dynamics. (Same as Psych. 270). I. 3 hr. An interdepartmental course, combining psychological and sociological approaches, in which the dynamics of groups in operation are considered. Mr. Rankin and Mr. Silberstein

274. Housing. I. 3 hr. Urban and rural housing conditions in U.S., proposed solutions; role of public and private action. Staff

Graduate Division

Prerequisite for all courses in the "300" series: consent of department head.

371, 372. Thesis. I, II. 1-6 hr. Staff

391. General Seminar. I, II. 3 hr. Staff

392. General Seminar. I, II. 3 hr. Staff

393. Seminar in Sociological Research. I, II. 3 hr. Staff

394. Seminar in Sociological Research. I, II. 3 hr. Staff

395. Seminar in Sociological Theory. I, II. 3 hr. Staff

396. Seminar in Sociological Theory. I, II. 3 hr. Staff

SPEECH

Professor Henning; Associate Professors Boyd, Schlanger, and Welden; Assistant Professor Burrows, Davis, and Phillips; Instructors Ford, Goulding, Newdick, Neyhart, Pallant, and Rockenstein.

The curriculum of the Department of Speech is so organized that a student may receive basic training in the cultural and practical aspects of any one or more of six fields of speech: (1) interpretation; (2) public address; (3) radio; (4) speech correction and audiology (5) teaching; and (6) theatre. In all courses of training in speech skills, professional standards of achievement are emphasized.

Forensic Activities. Intramural and intercollegiate forensics, including debate, oratory, and extemporaneous speaking, receive due attention. Speech tournaments, trips, and tours as well as campus contests are included in the program. Participation in the activities may lead to membership in Delta Sigma Rho, honorary forensic fraternity.

Theatrical Performances. The University Players, in conjunction with classes in dramatics, present a regular program of plays which affords ample opportunity for student participation. In addition, other public and semi-public performances are scheduled to provide experience for less advanced students. Membership in Alpha Psi Omega may be earned by superior work in connection with various productions.

Radio Programs. The University Radio Theater produces, through the facilities of its professionally equipped and outfitted studios, five-minute to half-hour shows for broadcasting. Many programs are recorded on tape and distributed to stations throughout the state.

Off-Campus Speech Services. The Department sponsors and furnishes student programs in the form of short plays, speeches, interpretative readings, and debates for off-campus performances before women's and civic clubs, community organizations, and church groups throughout the state.

Speech and Hearing Problems. Under the direction of a speech and hearing specialist, the Department maintains a clinic for diagnosis and treatment of speech and hearing deficiencies. All University students with speech and hearing handicaps may avail themselves of the services of the clinic without additional cost.

Major Requirements. The minimum number of hours in speech courses for a major is 36, including the following required courses: 3, 6, 11, 29, 121, 140, 165, 166, 250, and 251. The 12 hours of electives taken in addition to these required courses must all be upper division. A total of 40 semester hours in Speech may be counted toward graduation. Included in the major requirements is passage of the platform test.

Platform Test. During the second semester of the sophomore year each speech major shall demonstrate proficiency in a 15-minute platform test at a time and place designed by the head of the Department. Passage of this test shall be prerequisite to continued registration as a speech major. Two tests shall be the maximum allowed any student. A student may petition to have any public platform appearance in which he may have occasion to appear judged as his platform test. Satisfactory passage will fulfill this requirement.

RECOMMENDED DISTRIBUTION OF COURSES

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	Language	3	Language	3
Science*	4	Science*	4	Phys. Educ. (W)	1	Phys. Educ. (W)	1
Language	3	Language	3	Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Speech 3	3	Speech 6	3	Speech 29	3	Speech 11	3
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2	Hist. 52†	3	Hist. 53†	3
Phys. Educ.	1	Phys. Educ.	1	Pol. Sci. 1***	3	Pol. Sci. 2***	3
Electives**	2	Electives**	2	English 5	3	English 6	3
	16-18		16-18		16-17		16-17

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Speech 165	2	Speech 121	3	Speech Elec.	6	Speech Elec.	6
Speech 166	1	Philos. 104	3	Electives	10	Electives	10
Speech 140	3	Electives	10				
Speech 250	2						
Speech 251	1						
Electives‡	7						
	16		16		16		16

TEACHER TRAINING. For students working toward teacher certification in Speech, attention is called to the foot-noted items in the above distribution of courses. Also, in the selection of their speech electives, such students should be certain to elect Speech 120, Speech 161, and Speech 162, all of which are required for certification in the field of Speech. A minimum of 36 hours in the field is needed for certification.

*Students working toward teacher certification should take either Biol. 1 and 2 or Physical Science 1 and 2.

**Students working toward teacher certification should Schedule Art 30 and Music 10.

†Students working toward teacher certification should substitute Hist. 1 and 2.

***Students working toward teacher certification should substitute Social Science 1 and 2.

‡Students working toward teacher certification should schedule English 18 or 21, Educ. 105, and Health Educ. 101.

COURSES OF INSTRUCTION

Lower Division

1. SPEECH CLINIC LABORATORY. I, II. 1 or 2 hr. PR: Speech examination in speech clinic and consent. Laboratory for students with speech and hearing defects. Mr. Schlanger and Staff

2. SPEECH CLINIC LABORATORY. I, II. 1 or 2 hr. PR: Speech 1 and consent. Continuation of Speech 1. Mr. Schlanger and Staff

3. VOICE AND DICTION. I, II. 3 hr. Drills for developing proper breath support and for producing a strong, flexible, resonant voice. Emphasis upon clarity of voice for communication. Phonetics. Voices recorded and analyzed, with corrective exercises prescribed. Open to all students. Miss Pallant and Staff

6. ACTING. I, II. 3 hr. Drills for developing muscular control; for overcoming inhibitions; for rendering the body expressive of thought and emotion. Coordination of mind and body. Open to all students. Mr. Boyd and Staff

11. PUBLIC SPEAKING. I, II. 3 hr. PR: English 1 and 2. Study and application of principles of practical public speaking. Training in composition and effective delivery of speeches and in skills in thinking and speaking before an audience. Mr. Davis and Staff

29. ORAL INTERPRETATION. I, II. 3 hr. Development of mental and emotional responsiveness to written material. Techniques of communicating such material to others through oral reading. Open to all students. Miss Pallant

60. Junior Varsity Debate. I. 1-2 hr. Intercollegiate debate training and participation preparatory to varsity team debating. Open to freshmen and sophomores. Mr. Goulding

61. Junior Varsity Debate. II. 1-2 hr. Continuation of Speech 60. Mr. Goulding

75. Parliamentary Procedure. I, II. 1 hr. Study of and practice in establishing rules of order and methods of conducting meetings, assemblies, societies, etc. Mr. Welden

INTERPRETATIONS

Upper Division

104. Advanced Oral Interpretation. I. 3 hr. PR: Speech 29. Content and form of various types of literature and advanced techniques for their oral presentation. Miss Pallant

105. Basic Problems in Interpretation. II. 3 hr. PR: Speech 29. Designed to deal with individual problems of students in interpretation. Miss Pallant

113. Advanced Voice and Diction. I. 2 hr. PR: Speech 3. Advanced training of the voice for speech. Adapted to individual needs. Miss Pallant

200. Art of Storytelling. Summer session only. 2 hr. PR: Consent. Principles involved in effective presentation of stories, with practical experience in classroom and before audiences. Stories of all types for adults and children studied. Mr. Welden

203. Professional Reading. I, II. 3 hr. PR: Speech 104 and consent. Intensive training in interpretation. Designed to meet needs of individual. Full length public recital prepared and presented. Limited enrollment. Miss Pallant

205. Advanced Problems in Interpretation. II. 3 hr. PR: Speech 29 and consent. Designed to deal with individual problems of advanced students in interpretation. Miss Pallant

PUBLIC SPEAKING

120. Group Discussion. I, II. 3 hr. PR: Speech 11. Theory and practice of various forms of group discussion. Principles, methods, and types of group discussions; application of contemporary problems. Mr. Welden

121. Argumentation and Debate. I, II. 3 hr. PR: Speech 11. Principles of argumentation, evidence, and reasoning, application to debating. Mr. Welden

123. Advanced Argumentation and Debate. I. 3 hr. PR: Speech 121. Primarily for varsity debaters and Law students. Mr. Neyhart

124. Advanced Argumentation and Debate. II. 3 hr. PR: Speech 123. Mr. Neyhart

125. Advanced Public Speaking. I. 3 hr. PR: Speech 11. Techniques in composition and delivery of public speeches. Attention to parliamentary procedure. Mr. Davis

126. Speech for Business and Industry. 3 hr. PR: None. Designed particularly to meet the needs of business executives, supervisors, foremen, public relations personnel, salesmen, etc. Study of and performance in public speaking, conference methods, making reports, committee work, management leadership, group controls, and personnel relationships. Mr. Davis

220. Speech Composition. II. 2 hr. PR: Speech 11 and consent. Materials of speech, organization, and style; application to delivery. Mr. Henning

221. Persuasion. I. 3 hr. PR: Speech 11 and consent. Study and practice in identification of factors motivating human behavior and belief, how to secure and hold attention, the uses of suggestion, the dramatization of ideas. Application to advertising and writing as well as speaking. Adapted to needs of pre-law and commerce students. Mr. Henning

222. Forms of Public Address. II. 2 hr. PR: Consent. Composition and delivery of the oration, political speech, speech of introduction, dedicatory address, and eulogistic speech. Mr. Welden

223. Advanced Group Discussion. II. 2 hr. PR: Consent. Application of the principles and practices of group discussion to classroom teaching, the conference tables, committee work, policy-determining groups, and the public forum. Opportunities for participation by members of the class using current national and international problems. Mr. Welden

225. Interscholastic Forensics. Summer Session only. 2 hr. PR: Consent. Interscholastic public-speaking activities with emphasis upon types commonly termed original speech, such as debate, oratory, and extemporaneous speaking. Opportunity for performance in each type will be provided.
Mr. Henning and Mr. Welden

Graduate Division

330. History of Rhetoric. I. 3 hr. PR: Consent. Critical study of rhetoric from classical times to the present. Mr. Henning

335. History of American Public Address. II. 3 hr. PR: Consent. Critical study of leading American speakers, their biographies, speeches, and issues with which they dealt. Mr. Welden

339. Seminar: Problems in Speech. I, II. 3 hr. Mr. Henning

RADIO AND TELEVISION

Upper Division

140. Introduction to Broadcasting. I. 3 hr. Survey of the industry. The development of broadcasting, its responsibilities, and job opportunities. Organization of stations and their relation to networks. Federal regulation and industry codes. Technical aspects of radio and television. Brief consideration of programming and production techniques. Mr. Burrows

141. Radio and Television Announcing. II. 3 hr. Procedures and routines of announcing in both media. Staff assignments, regulations, logged broadcasting operations, reports, and emergency procedures. Practice in reading of news and commercial copy. Mr. Rockenstein

143. Fundamentals of Radio Production. I. 2 hr. PR: Speech 140 or consent. The operation and care of studio and control-room equipment. Nontechnical study of control and transmission of all types of radio programs. Blending of sound, music, and speech in dramatic production. Mr. Rockenstein

144. Radio and Television Continunity Writing. I. 2 hr. Format of all types of radio and television writing except dramatic scripts. Continuity for music programs, talks, interviews, round-table discussions, forums, and variety shows.
Mr. Rockenstein

145. Fundamentals of Television Production. I. 3 hr. Recommended PR: Speech 6. Elementary treatment of technical aspects of picture transmission and studio equipment. Station organization and personnel. Theory of camera operation and directing problems. Techniques of television acting and staging. Field trips to commercial stations for observation. Mr. Burrows

146. Microphone and Recording Techniques. I. 1 hr. A service course open to all students. Instruction and practice in using the microphone for radio, television, public address, etc. Practical training in tape and disc recording.
Mr. Burrows and Mr. Rockenstein

240. Radio and Television Dramatic Writing. II. 2 hr. PR: Speech 140 and 144 or consent. Dramatic scripts, documentaries, poetry programs, serial dramas, and children's shows for commercial and educational purposes. Scripts are written to be aimed at definite markets. Mr. Rockenstein

242. Production Directing. II. 2 hr. PR: Speech 143 or consent. Lecture and laboratory in analysis, casting, rehearsal, and production of talk shows, interviews, round-table forums, popular and classical music shows, variety shows.
Mr. Rockenstein and Mr. Burrows

243. Television Workshop. I, II. 2 hr. PR: Speech 140 and consent. Lecture and laboratory study in production of television programming. Mr. Burrows

244. Radio & Television Programming. II. 2 hr. PR: Speech 140 and 145 or consent. Methods of analysis of audience interests and subsequent planning of programs to service advertisers' accounts. Planning of public service, sustaining, and educational programs for radio and television. Mr. Burrows

Graduate Division

348. Seminar: Problems in Radio. II. 3 hr. PR: Consent. Mr. Rockenstein

349. Seminar: Problems in Television. I, II. 3 hr. PR: Consent. Mr. Burrows

NOTE: For additional courses of training for television, refer to Speech 6, Speech 162, Speech 260, Speech 261, Speech 263, Speech 264, and Speech 267.

SPEECH CORRECTION AND AUDIOLOGY

250. Speech Correction. I. 2 hr. PR: Consent. Introduction to the field of speech correction and speech therapy. Emphasis on functional disorders with special attention to articulation. Of interest to classroom teachers. For maximum benefit, Speech 251 should be taken concurrently. Miss Phillips

251. Speech Correction Laboratory. I. 1 hr. PR: Credit in Speech 250 and current enrollment, or consent. Laboratory period designed to accompany Speech 250. Identification of various speech defects stressed. Basic examining techniques practiced. Miss Phillips

252. Stuttering. I. 3 hr. PR: Speech 250, 251 and consent. Theories and therapies of stuttering. Miss Phillips

253. Introduction to Audiology. I. 3 hr. PR: Consent. General orientation to the field of audiology and the specialities which are included. A survey of the problems of the hearing-handicapped individual, basic hearing measurements procedures, and general goals of hearing therapy. Mr. Schlanger

254. Applied Phonetics. II. 3 hr. PR: Speech 3, 250, or consent. A study of the standard speech sounds in our language. Use of symbols for recording speech sounds; application of the use of such symbols in representing various usages of speech; special emphasis on analyzing and recording defective speech. Dynamic concepts studied. Mr. Schlanger

255. Hard of Hearing Therapy. II. 3 hr. PR: Speech 272 and consent. Bases and procedures of acoustic training and speech reading. Miss Phillips

256. Anatomy of the Speech and Hearing Mechanism. I. 4 hr. PR: Consent. Anatomical and physiological study of the vocal mechanisms and the ear. Mr. Schlanger

257. Clinical Practice. I, II. 2-3 hr. PR: Admittance only by consent of instructor. Supervised therapy of the severe speech and/or hearing disorders. Miss Phillips

258. Advanced Clinical Practice. I, II. 2-3 hr. PR: Speech 257 and consent of Instr. Supervised therapy of profound speech and/or hearing disorders. Miss Phillips and Mr. Schlanger

259. Advanced Speech Correction. II. 3 hr. PR: Speech 250, 251, 254, 256, and consent. Introductory study of the speech-retarded child and organically-based speech disorders including cleft palate, cerebral palsy, asphesia, esophageal speech, and phonation difficulties. Miss Phillips

271. Diagnostic Audiometrics. II. 3 hr. PR: Speech 253 and consent. A study of the various audiometric and speech reception tests outlining the dimensions of hearing. Experience in test administration and interpretation. Miss Phillips

272. Bases of Aural Rehabilitation for Children and Adults. I. 3 hr. PR: Speech 253, 271 and consent. Study of the perceptive and behavioral problems of aurally handicapped individuals in society, and approaches to methods of alleviating and compensating for hearing loss. Mr. Schlanger

273. Profound Organic Speech Disorders. I. 3 hr. PR: Speech 259 and consent. Advanced study of any one or several organically caused disorders introduced in Speech 259. Mr. Schlanger

275. Speech Problems of Children. II. 3 hr. PR: Consent. Normal development of speech habits in children. Diagnostic and remedial procedures for speech defects. Relationship between speech and allied activities such as reading, spelling, and disciplinary problems. Mr. Henning

Graduate Division

352. Advanced Speech Pathology. II. 3 hr. PR: Speech 250 and consent. Theories of causation and therapies for delayed speech development, cleft palate speech, and cerebral palsy speech. Miss Phillips

359. Seminar: Speech Pathology. I, II. 2 hr. PR: 9 hours of speech re-education courses and consent. Mr. Schlanger

THEATER

Upper Division

160. Theatrical Make-up. I. 2 hr. Lecture-laboratory course in art of stage make-up. Practical experience provided by doing make-up for University Players productions. Mr. Ford

161. Stagecraft. I, II. 3 hr. Lecture-laboratory course in elementary problems of scenery construction, scene painting, and stage lighting. Practical experience provided on University productions. Mr. Newdick

162. Play Directing. I. 3 hr. PR: Speech 165. Fundamentals of directing stage and television play. Emphasis on work of director in relation to actor, stage, business, composition, movement, and rehearsal schedule. Mr. Boyd

164. Theater Workshop. I, II. 1-3 hr. Laboratory for production of University plays and informal stimulation of interest in creative arts. Open to all students. Mr. Newdick

165. Theatrical Methods and Practices. I, II. 2 hr. Basic techniques and terminologies of acting, scene construction, lighting, properties, costuming, directing, and theater history. (Must accompany Speech 166 for credit). Mr. Ford

166. Theatrical Methods and Practices Laboratory. I, II. 1 hr. Laboratory to accompany Speech 165. Participation in actual production of University Theater and Children's Theater plays. Mr. Newdick

260. Advanced Acting. II. 2 hr. PR: Speech 6, Speech 165, and consent. Characterization, script analysis, style, theories, and techniques. Designed to meet needs of individual student. Mr. Boyd

261. Theatrical Dialects. I. 2 hr. PR: Consent. Study and mastery of 12 common dialects used in theater and radio. Mr. Boyd

262. Playwriting. II. 2 hr. PR: Speech 165 and consent. Development of creative ability in dramatic composition. Study of techniques and problems of playwright. Of cultural value, but primarily a writing course. Staff

263. Scene Design. II. 2 hr. PR: Consent. Lecture and laboratory in theories of scene design for stage and television, including actual construction of designs. Open to juniors, seniors, and graduate students. Mr. Burrows

264. Advanced Play Directing. II. 2 hr. PR: Speech 162, either Speech 161 or 164, and consent. Emphasis on work of directing as an integrating artist. Display of high level of proficiency in direction of a one-act play required of all students enrolled. Mr. Boyd

265. History of Theater. I. 2 hr. PR: Speech 165 and consent. Historical survey of theatre from primitive times to present. Includes both oriental and occidental theatres. Mr. Burrows

267. Advanced Scenery and Lighting. I, II. 2 hr. PR: Speech 161 and consent. A more technical study of scenery and lighting problems than is offered in Speech 161. Students are given opportunity for laboratory study through independent investigation and work on University Players' productions. Mr. Burrows

268. Creative Dramatics. I. 2 hr. PR: Speech 6 or consent. The study and practice of creative dramatic activity as a method of learning and self development for children. Mr. Ford and Mr. Boyd

Graduate Division

368. Seminar: Problems in Theatre. I, II. 3 hr. PR: Consent. Mr. Boyd

RELATED COURSES

170, 171, 172. Directed Speech Activities. I, II. 1-3 hr. PR: Consent of head of department. Head of department may grant credit for any extracurricular speech activity or study which is assigned to and directed by a member of the speech staff. Staff

270. Psychology of Speech. II. 3 hr. PR: 6 hours of psychology and 18 hours of speech. Psychological principles involved in speech situation. Analysis or roles of emotion, habit, learning judgment, rating, and imaginery in speech. Mr. Henning

Graduate Division

301. Research Problems and Methods. I. 3 hr. PR: Graduate standing. Required of all candidates for Master's Degree in speech. Mr. Henning

370. Research. I, II. 1-3 hr. PR: Speech 301, a speech seminar, and consent of head of department. For graduate students in speech. Mr. Henning and Staff

375. Independent Study. I, II. 1-3 hr. PR: Speech 301, a speech seminar, and consent of head of department. Open to graduate students in speech who are pursuing independent problems in that field. Mr. Henning and Staff

399. Thesis. I, II. 2-4 hr. Mr. Henning and Staff

The College of Commerce

The College of Commerce of West Virginia University was established by the Board of Governors of the University on November 10, 1951, and began its initial year of operation in September, 1952. Courses leading to the bachelor's and master's degrees in business administration and economics were offered by West Virginia University for many years in the Department of Economics and Business Administration which was in the College of Arts and Sciences. In September, 1952, the Department of Economics and Business Administration became the College of Commerce.

The College of Commerce is accredited not only through the approval of West Virginia University by national and regional agencies, but also the College holds full membership in the American Association of Collegiate Schools of Business. This Association is the only accrediting agency in the field of professional education for business at the collegiate level.

Objectives

The primary objective of the College of Commerce is to prepare students for careers in business and for careers that require extensive training in economics. To achieve this aim, the curricula of the College are so constructed as to provide a broad cultural background; a core group of courses in the various phases of business administration and economics; and specialization in a particular field of business administration or economics.

Undergraduate Program

Undergraduate work is undertaken in two divisions: the lower division, in which Freshmen and Sophomores are enrolled, and the upper division, in which Juniors and Seniors are enrolled. The lower division curriculum is designed to afford students a liberal educational background and to provide a foundation for the work that follows. Students will be admitted to the College of Commerce upon completion of at least 58 semester hours of required and acceptable elective courses at a grade average of not less than "C."

In order to provide a well-rounded background in the different phases of business or economics, a core curriculum is required. These courses are: Economic Principles, Industrial Management, Business Law, Money and Banking, Accounting, Statistics, Labor Problems, Business Finance, and Marketing. (Certain exceptions are made in the Economics major option.) Since many students do not follow the careers for which they prepare in the University, this background of fundamentals should better enable them, in terms of versatility and adaptability, to meet the changing courses of their careers than does a highly specialized program. Furthermore, it affords a comprehensive educational foundation upon which specialized programs can be built.

Although narrowly specialized training is avoided, major concentration areas are offered. These permit upperclassmen to acquire a detailed knowledge of those phases that interest them particularly. The major fields of study are as follows: Accounting, Economics, Finance, Management, Marketing, Secretarial Studies, and General Business.

Graduate Program

The graduate curriculum (for the Master's Degree) is designed to give qualified students the opportunity to pursue an advanced course of study in one or more specialized fields of business administration or economics. Each student's program is prepared in terms of his academic background and his interests, and is subject to the approval of his adviser.

Bureau of Business Research

The Bureau of Business Research, functioning as an integral part of the College, was organized for the purpose of undertaking research into business and economic problems—particularly those of West Virginia. This research program is undertaken

by the faculty members of the College of Commerce and by other staff members, under the general supervision of the Director of the Bureau of Business Research.

Publication of a series of monographs, the *West Virginia Business and Economic Studies*, was begun by the Bureau in 1949.

Placement of Graduates

The faculty placement adviser in the College as well as all staff members will aid qualified graduates to find desirable employment. Graduates have access to the University Placement Office, which serves graduating seniors and alumni.

ADMISSION REQUIREMENTS

Regular Students

Applicants seeking admission to the College of Commerce for the purpose of obtaining a degree must have earned at least 58 semester hours of required and approved elective courses in the lower division curriculum at a grade average of not less than "C."

Registration

Pre-Commerce freshmen and sophomores as well as juniors and seniors of the College of Commerce enroll at the beginning of each semester or term of the University.

REQUIREMENTS FOR DEGREES

Bachelor's Degree

The College of Commerce offers the degrees of Bachelor of Science in Business Administration and Bachelor of Science in Economics. Candidates for these degrees must have a minimum of 128 semester hours of work and have satisfied the College requirements as to courses and grades (256 grade points) in order to graduate. A candidate for the Bachelor's Degree must earn a minimum of 30 semester hours while enrolled as a student in the College of Commerce. Candidates for degrees to be conferred at the close of the second semester must be present in person to receive their degrees unless excused by the Dean. No individual may be exempted from the provisions of this University regulation except by official action of the Board of Governors of the University. Students who expect to obtain a degree from the College of Commerce and who take work at other institutions must have their programs approved by the Dean of the College of Commerce before registering at another institution.

A Second Bachelor's Degree

A student who has earned a Bachelor's Degree in one department or college of West Virginia University may become eligible for a second Bachelor's Degree by earning a minimum of 30 semester hours which include the core curriculum courses of the College of Commerce.

Master's Degree

Candidates for the degrees of Master of Science in Business Administration and Master of Science in Economics must have a minimum of 30 semester hours (approved by advisers) taken as graduate students. A thesis is required of all candidates. For details about requirements for graduate degrees reference should be made to the *Announcements* of the Graduate School, or to the corresponding section in the University *Catalog*.

PROGRAMS OF STUDY

Lower Division

Pre-Commerce students are expected to complete the lower-division program of study within the first two years of residence at the University. Economics 1 and 2 are prerequisite to all upper-division courses in the College of Commerce. Certain exceptions are made for courses in Secretarial Studies when taken by persons registered in other colleges.

Lower Division

FIRST YEAR

Courses	*Hr.*
English 1 and 2	6
Hist. 1 and 2 or Humanities 1 and 2	6 or 8
Laboratory Science[1]	8
Math. 2 or 3	3
Mil. or Air Sci. 1 and 2	4
Phys. Ed. (General Program)	2
Electives (Men)[2]	6
Electives (Women)[2]	10
TOTAL	35 or 37

SECOND YEAR

Courses	*Hr.*
Accounting 1 and 2	6
English 23 (except Secretarial Studies majors)[3]	3
Economics 1 and 2	6
Speech 11	3
Hist. 52 or Pol. Sci. 2	3
Mil. or Air Sci. 3 and 4	4
Phys. Ed. (General Program) (W)	2
Electives (Men)[2]	8
Electives (Women)[2]	10
TOTAL	33

Upper Division

Accounting

The accounting program is designed to prepare students for public accounting, and for positions as accountants in business, industry, and government.

JUNIOR YEAR

Course	*Hr.*
Intermediate Accounting (Accounting 111)	3
Intermediate Accounting (Accounting 112)	3
Cost Accounting (Accounting 115)	3
Industrial Management (Management 111)	3
Statistics (Economics 125)	3
Business Law (Bus. Law 111, 112)	6
Electives (Group 1)[4]	6
Electives (Group 2)[5]	3
TOTAL	30

SENIOR YEAR

Courses	*Hr.*
Advanced Accounting (Accounting 113)	3
Business Finance (Finance 111)	3
Money and Banking (Economics 111)	3
Labor Problems (Economics 115)	3
Principles of Marketing (Marketing 111)	3
Electives (Group 1)[4]	6
Electives (Group 2)[5]	6
Electives (Group 1 or 2)	3
TOTAL	30

[1]A laboratory science may be chosen from Biology, Chemistry, Physics, Botany, Zoology, Psychology, Geology, or Physical Science.

[2]Elective courses chosen from the following departments are recommended: English, History, Humanities, Mathematics, Philosophy, Political Science, Psychology, Sociology, Speech, or Foreign Language. Students who select a foreign language must complete 6 hours in the same language at the University. Students who plan to major in secretarial studies should schedule Secretarial Studies 61 and 62 in the sophomore year.

[3]Students majoring in secretarial studies should schedule Secretarial Studies 51 instead of English 23.

[4]Electives in Group 1 are to be selected from courses offered in the College of Commerce with the approval of the adviser. Depending upon their particular interest in accounting, students may select additional accounting courses from the following: Accounting 213, Income Tax Accounting; Accounting 214, Income Tax Accounting; Accounting 216, Advanced Cost Accounting; Accounting 217; Auditing Theory; Accounting 218, Auditing Practice; Accounting 220, Accounting Systems; Accounting 224, Advanced Accounting Problems; and Accounting 230, Advanced Accounting Theory. Students may apply toward the baccalaureate degree no more than 12 hours of elective accounting courses.

[5]Electives in Group 2 are to be selected with the approval of the adviser from upper-division courses of any department in the University other than the College of Commerce. Students electing advanced Military or Air Science will use electives in Groups 1 and 2 in the junior year and the electives from Group 2 in the senior year.

Economics

This program is designed for those who wish to emphasize economics in their training for business; for those who wish to undertake graduate work for an advanced degree; for those who wish to enter government service; and for those who wish to teach.

JUNIOR YEAR		SENIOR YEAR	
Courses	*Hr.*	*Courses*	*Hr.*
Statistics (Economics 125)	3	Public Finance (Economics 241)	3
Money and Banking (Economics 111)	3	Business Cycles (Economics 235)	3
Labor Problems (Economics 115)	3	History of Economic Thought (Economics 222)	3
Business Finance (Finance 111)	3	Electives (Group 1)[6]	12
Economic Theory (Economics 221)	3	Electives (Group 2)[7]	6
Electives (Group 1)[6]	6	Electives (Group 1 or 2)	3
Electives (Group 2)[7]	6		
Electives (Group 1 or 2)	3		
Total	30	Total	30

Finance

This program is designed to meet the needs of those students who plan to enter government service or to become associated with the financial or insurance departments of banks or of commercial and industrial organizations.

JUNIOR YEAR		SENIOR YEAR	
Courses	*Hr.*	*Courses*	*Hr.*
Industrial Management (Management 111)	3	Public Finance (Economics 241)	3
Statistics (Economics 125)	3	Business Cycles (Economics 235)	3
Business Law (Bus. Law 111, 112)	6	Investment (Finance 150)	3
Business Finance (Finance 111)	3	Labor Problems (Economics 115)	3
General Insurance (Finance 115)	3	Principles of Marketing (Marketing 111)	3
Money and Banking (Economics 111)	3	Electives (Group 1)[8]	6
Electives (Group 1)[8]	6	Electives (Group 2)[9]	6
Electives (Group 2)[9]	3	Electives (Group 1 or 2)	3
Total	30	Total	30

[6]Electives in Group 1 are to be selected from courses offered in the College of Commerce with the approval of the adviser.

[7]Electives in Group 2 are to be selected with the approval of the adviser from upper-division courses of any department of the University other than in the College of Commerce. Students electing advanced Military or Air Science will use electives in Group 2 in the junior and senior years.

[8]Electives in Group 1 are to be selected from courses offered in the College of Commerce with the approval of the adviser.

[9]Electives in Group 2 are to be selected with the approval of the adviser from upper-division courses of any department of the University other than in the College of Commerce. Students electing advanced Military Science or Air Science will use electives in Groups 1 and 2 in the junior year and electives from Group 2 in the senior year.

Management

This program is designed to prepare students for the several types of positions in management, especially those in production and in industrial relations. Although it does not provide highly technical training for the several types of positions in the field of management, it does provide a foundation upon which specialized training can be developed.

JUNIOR YEAR		SENIOR YEAR	
Courses	*Hr.*	*Courses*	*Hr.*
Statistics (Economics 125)	3	Business Finance (Finance 111)	3
Money and Banking (Economics 111)	3	Personnel Management (Management 216)	3
Business Law (Bus. Law 111, 112)	6	Production Management (Management 112)	3
Labor Problems (Economics 115)	3	Business Policy (Management 225)	3
Principles of Marketing (Marketing 111)	3	Marketing Management (Marketing 112)	3
Industrial Management (Management 111)	3	Electives (Group 1)[10]	6
Electives (Group 1)[10]	6	Electives (Group 2)[11]	6
Electives (Group 2)[11]	3	Electives (Group 1 or 2)	3
TOTAL	30	TOTAL	30

Marketing

This program is designed to prepare students for positions in the field of distribution. The required and suggested courses include work in the areas of sales management, sales promotion and advertising, marketing research and procurement as carried on by manufacturing, wholesaling, and retailing establishments.

JUNIOR YEAR		SENIOR YEAR	
Courses	*Hr.*	*Courses*	*Hr.*
Business Finance (Finance 111)	3	Labor Problems (Economics 115)	3
Statistics (Economics 125)	3	Principles of Advertising (Marketing 120)	3
Business Law (Bus. Law 111, 112)	6	Principles of Retailing (Marketing 115)	3
Industrial Management (Management 111)	3	Money and Banking (Economics 111)	3
Principles of Marketing (Marketing 111)	3	Electives (Group 1)[12]	6
Marketing Management (Marketing 112)	3	Electives (Group 2)[13]	6
Electives (Group 1)[12]	6	Electives (Group 1 or 2)	3
Electives (Group 2)[13]	3	Business Policy (Management 225)	3
TOTAL	30	TOTAL	30

[10]Electives in Group 1 are to be selected from courses offered in the College of Commerce with the approval of the adviser.

[11]Electives in Group 2 are to be selected with the approval of the adviser from upper-division courses in any department in the University other than in the College of Commerce. Students electing advanced Military or Air Science will use electives in Groups 1 and 2 in the junior year and electives from Group 2 in the senior year.

[12]Electives in Group 1 are to be selected from courses offered in the College of Commerce with the approval of the adviser.

[13]Electives in Group 2 are to be selected with the approval of the adviser from upper-division courses of any department in the University other than in the College of Commerce. Students electing advanced Military Science will use electives in Groups 1 and 2 in the junior year and electives in Group 2 in the senior year.

Secretarial Studies

This program is designed for students who intend to become secretaries to executives or supervisors of clerical activities in an office.

JUNIOR YEAR		SENIOR YEAR	
Courses	*Hr.*	*Courses*	*Hr.*
Industrial Management (Management 111)	3	Statistics (Economics 125)	3
Business Law (Bus. Law 111, 112)	3	Labor Problems (Economics 115)	3
Principles of Marketing (Marketing 111)	3	Business Finance (Finance 111)	3
Secretarial Training and Office Practice (Secretarial Studies 131)	3	Transcription (Secretarial Studies 123)	2
Shorthand 1 and 2 (Secretarial Studies 125 and 126)	8	Money and Banking (Economics 111)	3
Electives (Group 1)[14]	3	Electives (Group 1)[14]	9
Electives (Group 2)[15]	4	Electives (Group 2)[15]	4
		Electives (Group 1 or 2)	3
Total	30	Total	30

General Business

A student selecting the General Business Program has a wider choice of electives than does one who selects a more specialized program. This curriculum is recommended to those who have not decided upon a specialized field of study but who desire a well-integrated program in Business Administration.

JUNIOR YEAR		SENIOR YEAR	
Courses	*Hr.*	*Courses*	*Hr.*
Statistics (Economics 125)	3	Personnel Management (Management 216)	3
Principles of Marketing (Marketing 111)	3	General Insurance (Finance 115)	3
Business Law (Bus. Law 111, 112)	6	Money and Banking (Economics 111)	3
Industrial Management (Management 111)	3	Business Finance (Finance 111)	3
Labor Problems (Economics 115)	3	Electives (Group 1)[16]	9
Electives (Group 1)[16]	6	Electives (Group 2)[17]	6
Electives (Group 2)[17]	6	Electives (Group 1 or 2)	3
Total	30	Total	30

[14]Electives in Group 1 are to be selected from courses offered in the College of Commerce with the approval of the adviser.

[15]Electives in Group 2 are to be selected with the approval of the adviser from upper-division courses of any department in the University other than in the College of Commerce. Students electing advanced Military Science and Tactics or Air Science will use electives in Groups 1 and 2 in the junior year and from Group 2 in the senior year.

[16]Electives in Group 1 are to be selected from courses offered in the College of Commerce with the approval of the adviser.

[17]Electives in Group 2 are to be selected with the approval of the adviser from upper-division courses of any department of the University other than in the College of Commerce. Students electing advanced Military Science and Tactics or Air Science will use electives in Group 2 in the junior and senior years.

COURSES OF INSTRUCTION*

ACCOUNTING

1. Principles of Accounting. I, II. 3 hr. The fundamentals of accounting for business enterprises: the accounting cycle, journals and ledgers, working papers, statements. Staff

2. Principles of Accounting. I, II. 3 hr. PR: Accounting 1. Further study of the accounting process with emphasis on assets, liabilities, and net worth; manufacturing accounts; analysis of financial statements. Staff

111, 112. Intermediate Accounting. I, II. 3 hr. per sem. PR: Accounting 2. Analysis of accounting theory and practice as applied to business firms; assets valuation, liabilities, income determination. Mr. Vincent

113. Advanced Accounting. I. 3 hr. PR: Accounting 112. Accounting for partnerships, consolidations, installment sales, consignments, receiverships, reorganizations, branches, foreign exchange, and estates and trusts. Mr. Vincent

115. Cost Accounting. I. 3 hr. PR: Accounting 2. Fundamentals of cost determination with emphasis on the significance of cost data and their interpretation; process, job-order, and standard costs. Mr. Dennler

213, 214. Income Tax Accounting. I, II. 3 hr. per sem. PR: Accounting 112. Tax theory and practice as developed from regulations of the Internal Revenue Service; problems in preparation of tax returns for individuals, partnerships, and corporations. Mr. Skaggs

216. Advanced Cost Accounting. II. 3 hr. PR: Accounting 115. Advanced work in the application of cost theory and procedures to cases and problems, which emphasize the managerial use of cost information. Mr. Dennler

217. Auditing Theory. I. 3 hr. PR: Accounting 112. Auditing fundamentals; objectives, standards and procedures; introduction to working-paper techniques; procedure statements of the American Institute of CPA's. Mr. Skaggs

218. Auditing Practice. II. 3 hr. PR: Accounting 217. Application of auditing theory and procedures, with emphasis on decisions which involve judgment and are important in independent audits; audit working papers and reports; case studies. Mr. Skaggs

220. Accounting Systems. I. 3 hr. PR: Accounting 112. The adaptation of accounting procedures to the demands of the firm, with emphasis on theoretical factors important to efficiency and internal control; system surveys and reports, the design of forms, office machine applications. Mr. Vincent

224. Advanced Accounting Problems. II. 3 hr. PR: Minimum of 18 hours in accounting with an average grade of "B" or higher. Analysis and solution of representative C.P.A. problems. Mr. Vincent

230. Advanced Accounting Theory. II. 3 hr. PR: Accounting 112, 115, and consent of instructor. A critical analysis of accounting concepts and standards with emphasis on their origin, development, and significance. Mr. Vincent

331, 332. Thesis. I, II. 2 or 3 hr. Staff

BUSINESS LAW

111. Business Law. I, II. 3 hr. Introduction to the study of the legal system, courts and procedures, fundamentals of contracts and insurance. Mr. Cox

*The following abbreviations are used in this section:
I—a course given in the first semester
II—a course given in the second semester
I, II—a semester course given in each semester
I and II—a course given throughout the year
PR:—prerequisite

112. Business Law. I, II. 3 hr. Fundamentals of the law of real and personal property; sales of personal property; liens and security transactions; negotiable instruments. Mr. Cox

ECONOMICS

1. Principles of Economics. I, II. 3 hr. Organization and principles of economic activity. Freshmen are not admitted to Economics 1 and 2. Staff

2. Principles of Economics. I, II. 3 hr. PR: Economics 1. Economics 1 and 2 are prerequisite to all upper-division courses. Staff

111. Money and Banking. I, II. 3 hr. Our system of monetary and banking arrangements, viewed in relation to functioning of the economic system as a whole. Mr. Fishman

115. Labor Problems. I, II. 3 hr. An introduction to labor economics and labor relations in industry, including the interaction of economic forces, union policies, personnel practices, and labor law. Mr. Gavett and Mr. Herrnstadt

119. Economics of Consumption. I. 3 hr. Economic and social problems involved in consumer choices. Staff

125. Statistics. I, II. 3 hr. PR: Math. 2, 3 or 8. Methods of collecting, presenting, analyzing, and interpreting business data, with special emphasis on the analysis of frequency distribution, trend fitting, seasonal corrections, forecasting, and index numbers. A two-hour laboratory session is required in this course Mrs. Fishman

205. Current Economic Problems. S. 3 hr. PR: Economics 1 and 2 or consent of instructor. For students in Education only. A course designed to acquaint public school teachers with reliable source material in economics and to instruct them in studying current economic problems. Mr. Campbell

209. Problems in Economics. I, II. 1-3 hr. Staff

210. Comparative Economic Systems. II. 3 hr. Structure and processes of existing economic systems throughout the world including review of basic principles of free enterprise, socialistic, communistic, and fascistic societies. Comprehensive analysis based on current and recent experiments in these economies. Mr. Thompson

217. Trade Unionism. I. 3 hr. PR: Economics 115 or consent of instructor. An analysis of the structure, government, attitudes, and policies of organized labor; the implications of union policy. Mr. Gavett

218. Collective Bargaining. II. 3 hr. PR: Economics 115 or consent of instructor. Theory and practice of collective bargaining; including contract issues, types of relationships, and the role of government policy. Mr. Gavett and Mr. Herrnstadt

219. The Economics of Wages and the Labor Market. II. 3 hr. PR: Economics 115 or consent of instructor. The determination of wage levels and structure; the functioning and organization of labor markets. Mr. Gavett and Mr. Herrnstadt

221. Economic Theory. I. 3 hr. Training and experience in use of analytical methods and techniques needed in dealing with fundamental economic problems. Mr. Thompson

222. History of Economic Thought. II. 3 hr. Economic ideas in perspective of historic development. Mr. Thompson

225. Transportation. I. 3 hr. Development of an inland transportation system and relations and policies of transport agencies. Mr. Campbell

230. Public Utilities. II. 3 hr. Development of regulation; economics of valuation and rate making. Mr. Campbell

235. Economic Growth and Business Cycles. I. 3 hr. PR: Economics 125 or consent of instructor. Industrial fluctuations; causes and possible remedies. Mr. Fishman

241. Public Finance. I. 3 hr. Governmental fiscal organizations and policy; taxes and tax systems with particular emphasis upon the Federal Government and the State of West Virginia. Mr. Alvis

245. Government and Business. II. 3 hr. Government in its role of adviser and umpire; analysis of governmental policies and practices affecting business. Mr. Newhouse

250. International Trade. II. 3 hr. PR: consent of instructor. Development of trade among nations; theories of trade; policies; physical factors; trends; and barriers. Mr. Alvis

256. Advanced Statistics. II. 3 hr. PR: Economics 125 or equivalent. Correlations, index numbers, time series, analysis, statistical inference, and population forecasting. Mrs. Fishman

310. Contemporary Economic Theory. II. 3 hr. PR: Economics 221. Recent developments in economic theory such as those relating to imperfect competition, monetary problems, and collectivist economy. Staff

315. Bibliography and Research. I. 2 hr. Sources of information; research procedures; analysis and interpretation of data; preparation of manuscripts. Mr. Coleman

319. Seminar in Economics. II. 2 hr. Mr. Fishman

331, 332. Thesis. I, II. 2 or 3 hr. Staff

FINANCE

111. Business Finance. I, II. PR: Accounting 1 or 2 or consent of instructor. Legal and economic aspects of business formation, operation, and readjustment; social control of business activity. Mr. Newhouse

115. General Insurance. I, II. 3 hr. Theory of risk and its application to insurance; principles underlying all forms of insurance — life, property, casualty, fire, and surety. Mr. Wright

120. Life Insurance. I. 2 hr. PR: Finance 115. Principles of life-insurance protection; legal regulation of insurance companies. Mr. Wright

150. Investments. II. 3 hr. PR: Finance 111 or consent of instructor. Investment analysis and management for the individual and the firm. Mr. Newhouse

161. Real Estate. I. 3 hr. Principles and practices of real estate business. Mr. Wright

216. Casualty Insurance. II. 3 hr. PR: Finance 115. An analysis of liability, automobile, accident and health, workmen's compensation, and other casulty coverages. The forms and operations of casualty carriers, theories and methods of rating the casualty lines, and insurance regulation as it affects casualty coverages. Mr. Wright

217. Property Insurance. I. 3 hr. PR: Finance 115. An analysis of Fire, Marine, and Inland Marine insurance with particular reference to the theories of underwriting used in these lines. The case method of study is utilized. Mr. Wright

331, 332. Thesis. 2 or 3 hr. Mr. Roberts

MANAGEMENT

111. Industrial Management. I, II. 3 hr. The assignment of managerial personnel to the specialized activities, location and lay-out of manufacturing plants, standardization and simplification of equipment and processes, procurement, issue and storage of material, production cost and labor efficiency, planning and scheduling of operations. Mr. Crooks

112. Production Management. II. 3 hr. PR: Management 111. The management and administration of manufacturing and production activities with the proper coordination and control of them to achieve production goals. Mr. Isaack

213. Problems in Business Administration. I, II. 1-3 hr. Staff

216. Personnel Management. I, II. 3 hr. PR: Economics 115. Principles and practices in the direction, coordination, and remuneration of manpower. Mr. Isaack

225. Business Policy. II. 3 hr. PR: Senior standing and consent of instructor. Integrated study of policies, organization, facilities, and control techniques of business enterprises. Mr. Coleman

331, 332. Thesis. I, II. 2 or 3 hr. Staff

MARKETING

111. Principles of Marketing. I, II. 3 hr. Principles, policies, and practices followed by producer, wholesaler, and retailer in distribution of commodities to consumer. Mr. Huston

112. Marketing Management. I, II. 3 hr. PR: Marketing 111. Formation of marketing policies; organization and management of sales activities. Mr. Crooks

115. Principles of Retailing. I, II. 3 hr. PR: Marketing 111. Organization, administration, merchandising, operations, promotional activities, and retailing mathematics. Mr. Huston

120. Principles of Advertising. I, II. 3 hr. PR: Marketing 111 and 112. Introduction to principles and practices of advertising, including preparation of complete advertising campaign. Mr. Roberts

210. Industrial Purchasing. I. 3 hr. For seniors and graduate students. A survey of corporate procurement problems facing modern purchasing executives. Mr. Roberts

215. Marketing Research. I, II. 2 hr. PR: For seniors and graduate students in marketing, and consent of instructor. The utilization of present-day marketing research techniques in the solution of practical marketing problems, with particular reference to West Virginia. Mr. Roberts

331, 332. Thesis. I, II. 2 or 3 hr. Mr. Roberts

SECRETARIAL STUDIES

51. Business Communications. II. 3 hr. PR: 6 hr. English composition and ability to type. Vocabulary and technique of business writing as applied to various forms of research and reporting. Miss Noyes

61. Typewriting. I. 2 hr. For secretarial majors, or consent of instructor. Instruction in formation of accurate typing habits.* Miss Noyes

62. Typewriting. I, II. 2 hr. PR: Secretarial Studies 61 or equivalent. For secretarial majors or consent.* Miss Noyes

125. Shorthand. I. 4 hr. Gregg shorthand for beginners.* Miss Noyes

126. Shorthand. II. 4 hr. PR: Secretarial Studies 125, or equivalent. Intensive review of fundamental principles of Gregg shorthand; development of accurate writing and ability to transcribe business and manuscripts materials.* Miss Noyes

131. Secretarial Training and Office Practice. I. 3 hr. PR: Ability to type. Analysis of common working problems of a secretary. Special emphasis on sources of information, procedures in filing, handling mail, planning itineraries, preparing material for publication, preparing minutes of meetings, and preparing statistical material.* Miss Noyes

132. Transcription. II. 2 hr. PR: consent of instructor. For advanced students of typewriting and shorthand.* Miss Noyes

*Credit will be allowed only to majors in Secretarial Studies in the College of Commerce and to students in the College of Education with Commerce teaching fields.

The School of Dentistry

Historical Statement

THE SCHOOL OF DENTISTRY

The School of Dentistry was established by an Act of the West Virginia Legislature passed March 9, 1951. The Act authorized a soft drink tax to be imposed "For the purpose of providing revenue for the construction, maintenance and operation of a four-year school of medicine,* dentistry and nursing of West Virginia University . . ." The Act became effective July 1, 1951. Immediate steps were taken by the University to plan for the construction of facilities that would house the schools of dentistry, medicine, nursing and pharmacy,** and work on the project was begun by a technical staff assisted by experienced consultants.

The plans for the physical facilities to be used by the School of Dentistry and the development of a dental education program for the University were directed by a consultant to the technical staff who served until May 1, 1953, at which time he assumed the responsibilities of Dean of the School of Dentistry.

Dental Education

The practice of dentistry, as a natural division of health care, is as old as recorded history. Contrary to the beliefs of some, the dental art has never been practiced as a part of, or as a specialty of conventional medicine. Nor has it been possible, in the many trials that have been made, to successfully engraft dental education on the main stem of conventional medical education. The evolutionary development of dental education has followed substantially the same course as that taken by the other professions down through the centuries. The education of the dentist began with the indentured apprentice method of training, then moved to the preceptorial plan of teaching, and finally came under the authority of collegiate institutions which were designed especially for the effective education of the dentist.

The first collegiate institution founded for teaching the science of dentistry and its art of dental practice was the Baltimore College of Dental Surgery, now the School of Dentistry, University of Maryland, which was chartered in 1840. The first university dental school was the Harvard Dental School, which was authorized by the President and Fellows of the Harvard College in 1867. The first state university dental school was the College of Dental Surgery, at the University of Michigan, which was established in 1875.

Institutional dental education in the United States began under proprietary auspices. Today it is conducted on a non-profit basis under the control of the university. Of the forty-six dental schools now in the United States, forty-five are integral parts of universities and one is a private, non-profit college. The dental school is accepted by the university of which it is a part on equal terms with the university's other professional schools.

The national accrediting agency for dental education in the United States is the Council on Dental Education of the American Dental Association. The dental schools of the United States are organized nationally into a body known as The American Association of Dental Schools. All schools in the United States accredited by the Council on Dental Education are members of the Association.

*The University has been interested in medical education from its beginning. From 1868 to 1912 it offered courses in preclinical medical subjects. From 1903 to 1911 the University maintained a College of Medicine, awarding the M.D. Degree. The first two years were given at Morgantown, the last two years at the College of Physicians and Surgeons in Baltimore. In 1912 the two-year School of Medicine as now organized was begun. At the end of two years of preclinical instruction, the students have transferred to other medical schools to which they have been able to gain acceptance for the completion of their education. Since 1943, the majority of the members of the classes have transferred to the Medical College of Virginia under an agreement between that College and the State of West Virginia.

**A Department of Pharmacy was established in the School of Medicine in 1914. By order of the Board of Trustees it was separated from the School of Medicine and established as a four-year College of Pharmacy, effective July 1, 1936.

BUILDING

The School of Dentistry is an integral part of the Medical Center which is located on a 145-acre campus, two miles from the center of the main University Campus. The plans for the Medical Center consist of a Basic Sciences building and a teaching hospital constructed in a single unit. The Basic Sciences building, which includes all facilities for the School of Dentistry, is completed. The construction of the teaching hospital is under contract and should be completed late in 1960.

The basic sciences unit is designed with a central core from which extend five wings. The central core is two hundred and twenty-five feet square and five stories high. The basic sciences departments, which serve the needs of all the schools, are located on the top three floors. The several departments of clinical dentistry, the laboratories to be used for teaching the basic dental sciences and for processing restorative appliances, occupy the first floor of the central core and the northeast wing of the Center. Ample space is provided in this area for undergraduate, graduate and postgraduate instruction, for dental research, and for conducting a dental hygienist program.

An oral surgery department for use by graduate students, interns and residents, and for serving the emergency oral needs of hospitalized patients, is planned for the third floor of the hospital.

Locker rooms for both men and women, a bookstore, post office, student lounge, snack bar and cafeteria are located on the ground floor. Ample parking space for teachers, students and visitors is provided on the large campus.

LIBRARY

The Dental Library is an integral part of the Medical Center Library, which is located on the second floor of the west wing of the Basic Sciences building. An area of about 28,000 square feet of floor space is set aside for book stacks, a reading room, study rooms, cubicles and administrative offices. The stacks provide space for one hundred and twenty-five thousand volumes. In addition to a comprehensive basic sciences library that has been accumulated by the School of Medicine, the Library will contain an initial collection of approximately five thousand volumes relating to the science and art of dentistry. This collection includes important reference books and many complete files of the more valuable dental periodicals. About one hundred and fifty current dental publications will be available for use by the student.

THE CURRICULUM

The School of Dentistry offers an undergraduate program of education consisting of four academic years. The courses included in the program are outlined and described in detail in this Bulletin under the heading, *A Description of Courses*. The student is required to take all courses that are listed for each semester of each year and must complete each course satisfactorily in order to enroll for the courses in the succeeding year.

For purposes of convenience in planning, the undergraduate program may be regarded as consisting of two preclinical years and two clinical years. The preclinical years include instruction in various courses in the several basic biological and dental sciences. Instruction consists of didactic lectures, laboratory instruction, group demonstrations and conferences. The clinical years will include classroom lectures, group conferences, group demonstrations in dental procedures, and clinical instruction in the diagnosis and treatment of patients.

Facilites have been provided and plans are being made to offer refresher, postgraduate and graduate courses, and to begin instruction for dental hygienists at an early date.

ADMISSION REGULATIONS

The requirements for admission to the School of Dentistry, West Virginia University, conform to standards established by the Council on Dental Education of the American Dental Association, and approved by the American Association of Dental Schools.

Applicants for admission to the School of Dentistry should write to the Assistant Registrar, Medical Center, West Virginia University, who will furnish official blanks upon which formal application must be made.

Applications for admission will be received after June 1, but final acceptance will not be offered the candidate before November 1 of the year preceding his anticipated enrollment in the School of Dentistry.

In case an applicant has been unable for any reason to gain admission to the School of Dentistry, or to enroll or to remain in school after having been admitted, and cares to reapply, he may do so by observing the same procedures as those followed in making his initial application.

In order to be considered for admission to the School of Dentistry, the applicant must be a graduate of an accredited high school with fifteen units of entrance credit which shall include four units of English, one unit of elementary algebra and one unit of plane geometry.

Applicants for admission must present evidence of having completed successfully two full academic years (60 semester or 90 quarter hours) of work in the liberal arts in an accredited college based on the completion of the prescribed four-year high school course. All science courses shall include both lecture and laboratory instruction. The college course shall include not less than six semester hours credit in English composition and rhetoric, in biology (preferably zoology), in physics, in inorganic chemistry and in organic chemistry. Credits earned in physical education and military science will not be considered.

Although the minimum requirement for admission is two years of college work, many prospective students prefer to continue their predental education for three and even for four years. In case the student extends his pre-dental training beyond the minimum requirement, it is recommended that he elect courses in the humanities and the social sciences in order to acquire a broadened intellectual background for both the study and the practice of dentistry.

A dental aptitude testing program is sponsored by the Council on Dental Education of the American Dental Association and approved by the American Association of Dental Schools. Applicants for admission to the School of Dentistry are required to take the aptitude tests and to submit the resulting scores. The scores achieved on these tests will be considered as a factor in the selection of students. The test may be taken in any one of the forty-six dental schools, or any one of forty testing centers set up in colleges and universities throughout the United States. Information concerning the places, and the dates on which the tests will be given, may be obtained from the Secretary of the Council on Dental Education, care of the American Dental Association, 222 East Superior Street, Chicago 11, Illinois.

A personal interview with the Committee on Admissions is required. Interviews will be held at the Medical Center, West Virginia University, and will be arranged, as far as possible, to suit the convenience of the applicant.

Good physical and mental health are essential for the successful study and practice of dentistry. Good eyesight is particularly important. The applicant who is admitted to the School of Dentistry must present on or before the day of enrollment, a certificate from his opthalmologist stating the condition of his eyes, and if any correctible defects in vision exist he shall present evidence that proper corrections have been made.

In considering candidates for admission, priority will be given to West Virginia residents who may meet fully all specified requirements. The Committee on Admissions will give preference to those applicants who have the higher scholastic records in secondary schools and in college; who make the better scores in the dental aptitude tests; who present favorable recommendations from their instructors in biology, chemistry, and physics; and who in all other respects, as far as can be judged, give promise of becoming successful students and competent dentists.

A deposit fee of twenty-five dollars is required when the applicant accepts offer of admission. This amount will be applied as part-payment of tuition when the applicant registers for the first semester. The deposit will be forfeited if the applicant fails to register.

REGISTRATION

All students in the School of Dentistry are required to register at the Medical Center on the days designated for registration at the beginning of each semester as shown in the academic calendar. A student who may be unable to register on the appointed days because of circumstances beyond his control may be permitted late registration but in no case may he register after the first week of classes. Students

failing to register on the day set aside for registration must pay the late registration fee of $2.00.

Fees and Costs

All students in the School of Dentistry pay the semester fees prescribed in Part I of this *Catalog*.

Dental students are required to provide themselves with necessary textbooks for the scheduled courses, and special instruments that are necessary for use in the dental science laboratories and clinics. Lists of required textbooks and selected instruments will be prepared for use by the student in making his purchases. The textbooks will be recommended by the several teachers as best for the courses; the instruments that are selected will be standard brands of proven quality. Any request for substituting items on the prescribed lists of textbooks or instruments will not be approved. Costs of these requirements will vary, but the following *estimated* amounts will approximate the costs by years.

	Freshman	*Sophomore*	*Junior*	*Senior*
Books	$ 80.00	$ 80.00	$110.00	$ 10.00
Instruments	360.00	450.00	215.00	85.00
Total	$440.00	$530.00	$325.00	$ 95.00

In several of the basic science courses, each student will be required to have a microscope for laboratory use. The purchase of a microscope will not be mandatory since these instruments may be secured through the University Book Store on a rental basis. Although the fee may vary from year to year, twenty dollars per semester will approximate the service cost.

Living costs will be determined by the standard of living which the student desires to maintain. Living quarters may be found in the private homes of residents of Morgantown. Arrangements for meals may be made at boarding houses, restaurants, and the Medical Center Cafeteria. Total *living* costs are estimated to range from $800 to $1,000 per year.

ATTENDANCE REQUIREMENTS

The student is required to be in regular attendance at all scheduled class, laboratory and clinic assignments. He must enroll promptly at the beginning of the school year and attend all scheduled classes regularly until the end of the year. Irregular attendance may lead to the dismissal of the student.

Students are required to take all final examinations. If a student attends a course throughout the semester, or the year, and is absent from the final examination without permission, or for a reason unsatisfactory to the teacher, the examination shall be counted a zero and the final grade be reported as "F." If in the opinion of the teacher, the student is absent for a justifiable reason, the fact shall be recorded on the student's record, and a grade of "I" returned.

PROMOTION

In order to be promoted to the succeeding year it is necessary for the student to pass satisfactorily all courses included in the curriculum for the given year with a minimum grade-point average of 1.500. Scholastic averages are computed on the basis of semester credits assigned to each course and numerical values assigned the letter grades. The numerical values are: A-4; B-3; C-2; D-1. The grade-point average is the sum of the products of the semester credits and numerical grade values divided by the total number of semester credits. Promotion cannot be made with a *failure* or an *incomplete* on the record.

If a student fails to satisfactorily complete all courses in which he is enrolled during any year or if he fails to make the required grade-point average, his status will be reviewed by a Scholarship Committee. The membership of this committee consists of those teachers responsible for the courses in which the student is enrolled. For example, the freshman scholarship committee will include teachers responsible for subjects taught in the freshman year. Upon the recommendation of the Scholarship Committee and the approval of the Faculty Council, a student may be placed on *probation* and permitted to enter the next succeeding semester with a deficiency in grade-point average.

If the final grade of a student in any course is "F," the student must repeat the course in class in order to remove the failure. The grade of "I" is given when an instructor believes that the course work is unavoidably incomplete or that a supplemental examination is justifiable. It may be removed by examination or the completion of the unfinished work of the course. The grade of "F" or "I" must be removed in order for the student to enroll in the succeeding year of the curriculum.

To be eligible for graduation, a student must have achieved an average of at least "C," or a grade-point average of at least 2.000, computed on all work for which he has received grades during his four years of study.

REQUIREMENTS FOR THE DEGREE

The candidate for graduation may be recommended by the faculty of the School of Dentistry to the Board of Governors for its approval and for the conferring of the degree of Doctor of Dental Surgery, provided he meets fully the following conditions:

1. He shall have been in regular attendance in the School of Dentistry for the full four years, or upon transfer, the last two years of the course.
2. He shall have completed the prescribed requirements for each of the four years and shall have achieved a grade-point average each year of not less than 1.500, and a grade-point average for the four years of not less than 2.000, or an average grade of "C."
3. He shall have shown during his time in the School of Dentistry that he is of good moral character and shall have demonstrated a sense of professional responsibility in the performance of his assignments as a student.
4. He shall have met in full all financial obligations to the University.
5. He shall present himself at the time and place designated for the conferring of the degree.

CURRICULUM PLAN*
1959-60

FRESHMAN CLASS

		Clock Hours						
		1st Semester		*2nd Semester*		*Year Totals*		*Credit*
		Lect.	*Lab.*	*Lect.*	*Lab.*	*Lect.*	*Lab.*	*Clinic† Hours*
206	Gross Anatomy	32	96	32	96	64	192	8
209	Microanatomy	48	144			48	144	6
210	Tooth Morphology	16	96			16	96	3
212	Dental Materials	16	96			16	96	3
208	Neuroanatomy			16	64	16	64	2
223	Biochemistry			80	96	80	96	7
213	Prosthodontics I			16	96	16	96	3
211	Comparative Dental Anatomy			16	16	16	16	1
	TOTAL	112	432	160	368	272	800	33

SOPHOMORE CLASS

225	Microbiology	32	128			32	128	5
243	Physiology	64	80			64	80	6
229	Operative Dentistry	16	96	8	48	24	144	5
234	Prosthodontics I		48	16	96	16	144	4
236	Prosthodontics II	16	96	16	96	32	192	6
228	Pathology			32	96	32	96	4
233	Pedodontics**			8	48	8	48	1
240	Periodontics**			8	24	8	24	1
242	Endodontics**			8	24	8	24	1
239	Anesthesiology			16		16		1
226	Oral & Written Communication			32		32		2
	TOTAL	128	448	144	432	272	880	36

*Includes those courses for the three classes to be enrolled in 1959-60.
**Class meets for eight weeks.
†Clinic practice begins in the Junior year. Allocation of time is estimated.

CURRICULUM PLAN (*Continued*)

JUNIOR CLASS									
250	Prosthodontics I	16	32	16		32	32	85	4
264	Oral Diagnosis	16		16		32		24	2
242	Endodontics**	8		8		16		32	2
257	Prosthodontics II	16				16		80	2
270	Prosthodontics II			16	48	16	48		2
258	Operative Dentistry	16		16		32		160	4
253	Oral Pathology	32	48			32	48		3
259	Oral Surgery	16		16		32		50	3
265	Orthodontics			32		32			2
261	Pedodontics	16				16		45	2
263	Periodontics**	8		8		16		32	2
260	Pharmacology	64	48			64	48		5
268	Principles of Medicine			32		32			2
267	Oral Radiology	16				16		34	2
	TOTALS	224	128	160	48	384	176	542	37

Courses of Instruction

The following abbreviations are used in designating the semester during which the course is offered and the credit hours assigned to it.

I—A course given in the first semester.
II—A course given in the second semester.
Yr.—A course continued through two semesters.
Hr.—Number of credit hours per course.
PR—Prerequisite.

For convenience, each course is designated by the name of the department offering the course, course number, course title and number of credit hours. The plan for numbering courses in the dental curriculum is:

Freshman—numbers 200 to 224.
Sophomore—numbers 225 to 249.
Junior—numbers 250 to 274.
Senior—numbers 275 to 299.

DESCRIPTION OF COURSES

Basic Sciences Instruction

ANATOMY

Professor JOHNSON; Associate Professor BOYER; Instructors GOODGE and SWINDLER.

206. GROSS ANATOMY. Yr. 8 hr. PR: General Zool. This course consists of dissections, lectures, conferences, and many demonstrations. Emphasis is mainly on structure and function. Bones are studied in relation to the part being dissected.

208. NEUROANATOMY. II. 2 hr. PR: Anatomy 206. This course consists of gross and microscopic study of the brain, spinal cord, and peripheral portions of the nervous system. Function is correlated with structure.

MICROANATOMY

Professors WILLIAMS; Associate Professors HIGGINBOTHAM and REYER.

209. MICROANATOMY. I. 6 hr. PR: Zool. 1, 2. The minute anatomy and functional aspects of tissues and organs with brief reviews of their embryonic origin. Special emphasis is placed on the microscopic anatomy of teeth, their supporting structures and closely related areas.

Microbiology

Professor Slack; Assistant Professors Dyson, Harrell, and Zahler; Instructor Hall.

225. Dental Microbiology. I. 5 hr. PR: Organic and Biochemistry. A study of pathogenic bacteria, fungi, rickettsia, and viruses which infect man with special emphasis on those microorganisms important to dentistry.

Biochemistry

Professor Krause; Assistant Professors Gangloff and Lotspeich; Instructors Canady and Nelson.*

223. Biochemistry. II. 7 hr. PR: Organic Chemistry. The course deals with a study of the chemical and physiochemical processes which take place in the human body. The main subjects considered are physiochemical properties of solutions, carbohydrates, liquids, proteins, foods, enzymes, digestion, absorption, detoxications, intermediary metabolism, energy metabolism, tissue composition, blood, urine, hormones and vitamins.

Pathology

Professor Hobbs; Associate Professor Ehrgott; Assistant Professors Harley and Love.

228. Pathology for Dental Students. II. 4 hr. PR: Microscopic Anatomy 209. Comprises a study of diseases and disease processes to include the causes, mechanisms, effects, signs and symptoms with emphasis upon the fundamental aspects as applied to dentistry.

253. Oral Pathology. I. 3 hr. PR: General Pathology. A study of the etiology of the diseases of the teeth and their investing structures, including pathogenic dentition, dental anomalies, calcific deposits, dental caries, pulpal diseases, focal infection, oral manifestation of systemic diseases, and benign and malignant lesions in and about the oral cavity.

Pharmacology

Professor Watts; Associate Professors McKinney and Saxe.

260. Pharmacology for Dental Students. I. 5 hr. PR: Physiology. Origin, chemistry, pharmacodynamics, toxicology, therapeutic use and dosage of drugs commonly used in the practice of dentistry.

Physiology

Professors Northup, Stickney, and Van Liere; Assistant Professor Lindsay; Instructor Gilfoil.

243. Physiology. I. 6 hr. PR: Zoology 1 and 2, Organic Chemistry. Human physiology, intermediate level.

Basic Dental Sciences and Clinical Instruction[1]

Division of Oral Anatomy

Assistant Professor Costianes; Instructor Wilson.

210. Tooth Morphology. I. 3 hr. PR: Zoology 1 and 2. A study of the anatomy of the primary and permanent teeth, their approximal and occlusal relations and their functions.

211. Comparative Dental Anatomy. II. 1 hr. PR: Tooth Morphology 210. A study of the evolutionary development of the human dentition, including a comparative study of the teeth of species of the animal kingdom, both vertebrate and invertebrate.

*Part-time.

[1]Names of additional teachers in the Basic Dental Sciences and in Clinical Instruction to be announced later.

Division of Dental Materials

Assistant Professor Overberger.

212. Dental Materials. I. 3 hr. PR: Physics. General and Organic Chemistry. A study of the sources, the methods of manufacturing, and the physical and chemical properties of materials used in dentistry, and the effect of manipulation on their properties in the uses to which they are put in the practice of dentistry.

Department of Operative Dentistry

Professors Randolph and Sausen; Assistant Professor H. H. Boyers.

229. Operative Technics. Yr. 5 hr. PR: Tooth Morphology 210 and Dental Materials 212. A study of the diseases and abnormalities of the hard tissues of the teeth, the technical procedures followed in the treatment of these conditions, and the selection and use of materials employed in restoring the teeth to their normal form and function.

258. Clinical Operative Dentistry. Yr. 4 hr. PR: Operative Technics 229. A series of lectures on the theory and art of practice, and clinical exercises in methods of treatment of diseased and injured tooth structures.

283. Clinical Operative Dentistry. Yr. 7 hr. PR: Clinical Operative Dentistry 258. A further application of operative procedures taught in courses 229 and 258, extended to include the treatment of complex cases and the use of the several varieties of materials applicable in tooth restorations.

Department of Pedodontics

233. Pedodontic Technics. II. 1 hr. PR: Operative Technics 229. A study of the principles involved in the treatment of diseased or damaged teeth of children.

261. Clinical Pedodontics. Yr. 2 hr. PR: Pedodontic Technics 233. A course in the diagnosis of diseased, damaged, or abnormal conditions of the primary dentition, including various methods of treatment.

286. Clinical Pedodontics. Yr. 1 hr. PR: Clinical Pedodontics 261. A course of instruction in child management, child growth and development, child diseases affecting the dentition, and the application of preventive and restorative procedures essential in the treatment of the child.

Department of Prosthodontics I.—(Removable Restorations)

Professor Davis; Assistant Professor F. E. Boyers.

213. Prosthodontic Technics. II. 3 hr. PR: Tooth Morphology 210, Dental Materials 212. A study of principles and procedures to be followed in the replacement of lost dental organs.

234. Prosthodontic Technics. Yr. 4 hr. PR: Prosthodontic Technics 213. A continuation of Prosthodontic Technics 213.

250. Clinical Prosthodontics. Yr. 4 hr. PR: Prosthodontic Technics 213, 234. A series of lectures, demonstrations and clinical practice in methods of full and partial denture prosthesis.

276. Clinical Prosthodontics. Yr. 7 hr. PR: Clinical Prosthodontics 250. Lectures, demonstrations, diagnosis, treatment planning, and clinical practice in the art of full and partial denture construction.

Department of Prosthodontics II.—(Crown and Bridge)

Professor Adams.

236. Prosthodontic Technics. Yr. 6 hr. PR: Tooth Morphology 210, Dental Materials 212. Lectures on the principles of fixed denture prosthesis, and laboratory exercise in the techniques of fixed denture restorations.

257. Clinical Prosthodontics. Yr. 2 hr. PR: Prosthodontic Technics 235. A series of illustrated lectures and demonstrations employed in clinical practice, including a study of indications and contra-indications of various types of fixed restorations.

270. Prosthodontic Technics. II. 2 hr. PR: Prosthodontic Technics 236. A series of lectures with laboratory exercises related to the application of fused porcelain and acrylic resins used in fixed partial denture prosthesis.

289. Clinical Prosthodontics. Yr. 7 hr. PR: Clinical Prosthodontics 257. Lectures on problems in clinic practice, and clinical instruction in fixed denture prosthesis especially in designing and constructing the more complex restorative appliances.

Department of Oral Surgery

239. Anaesthesiology. II. 1 hr. PR: Physiology 243. Lecture course on local and general anaesthesia, a discussion of the several anaesthetic agents that are used to produce both types of anaesthesia, and the indications and contra-indications for their uses.

259. Oral Surgery. Yr. 3 hr. PR: Anaesthesiology 239. Tooth Morphology 210. A course of instruction in the surgical removal of teeth. Particular attention is given to the classification of teeth for extraction, the correct procedures to be followed in the removal of teeth in the several classes and in the pre- and post-operative treatment of the patient.

284. Oral Surgery. Yr. 6 hr. PR: Pathology 253, Oral Surgery 259. A course of lectures, demonstrations and clinical practice in the surgical treatment of pathology connected with the teeth, of unerupted and impacted teeth, alveolectomy, apicoectomy and fractures of the jaws.

Department of Periodontics

240. Peridontic Technics. II. 1 hr. PR: Histology 209, Tooth Morphology 210. Procedures in the technical treatment of periodontoclasia with emphasis on the choice of proper instruments and correct instrumentation.

263. Clinical Periodontics. Yr. 2 hr. PR: Periodontic Technics 240. A study of periodontal diseases, their etiology, symptomatology, accepted methods of treatments, and procedures to be followed in clinical treatment.

277. Clinical Periodontics. Yr. 2 hr. PR: Clinical Periodontics 263. A review of the principles taught in preceding years extended to include various methods of treatment of periodontoclasia.

Department of Endodontics

242. Endodontic Technics. II. 1 hr. PR: Tooth Morphology 210. Procedures employed in the treatment of the pulps of teeth, their removal, and their replacement by the use of inert substances.

255. Clinical Endodontics. Yr. 2 hr. PR: Endodontic Technics 242. A series of lectures, demonstrations and clinic practice in methods of treatment of the dental pulp.

280. Clinical Endodontics. Yr. 1 hr. PR: Clinical Endodontics 255. A practice course devoted to the diagnosis and treatment of injuries or diseases of the dental pulp.

Department of Oral Diagnosis

264. Oral Diagnosis. Yr. 2 hr. PR: Tooth Morphology 210, Pathology 253. Examination of the teeth and their supporting structures based on X-ray findings and clinical inspection. The student is taught to properly chart their findings in order to establish a permanent record.

279. Physical Diagnosis. I. 1 hr. PR: Pathology 228 and 253. To acquaint the student with procedures to be followed in making a thorough diagnosis, to instruct him in symptomatology of the more common general diseases, particularly

those that may be dentally connected, and to instruct him in outlining an indicated treatment.

287. Clinical Oral Diagnosis. Yr. 1 hr. PR: Pathology 228, Principles of Medicine 268. A continuation of exercises in mouth examination including the study of oral lesions, of oral symptoms, of general diseases, the relationship of oral diseases to general diseases, and experience in conducting laboratory tests in making a complete diagnosis.

Department of Orthodontics

265. Orthodontics. II. 2 hr. PR: Tooth Morphology 210, Comparative Dental Anatomy 211. A course of instruction in the evolution of human dental occlusion, forces of occlusion, etiology, diagnosis and classification of types of malocclusion.

285. Clinical Orthodontics. Yr. 1 hr. PR: Orthodontics 265. Observations of practical cases, and discussions of methods of treatment of various classes of malocclusion under treatment.

Department of Radiology

267. Oral Radiology. Yr. 2 hr. PR: Physics, Tooth Morphology 210. The course includes a study of the physical principles involved, and the apparatus used in the production of Roentgen rays, and the development of the student's skills in the procedures followed in taking, processing, mounting and interpreting the several types of intra-oral and extra-oral radiographs.

296. Clinical Oral Radiology. I. 1 hr. PR: Oral Radiology 267. The course includes instruction in the clinical use of various types of X-ray films in the diagnosis of oral conditions.

Division of Principles of Medicine

268. Principles of Medicine. Yr. 3 hr. PR: Basic Sciences Courses. The purpose of the course is to study those diseases that are included in the practice of internal medicine about which the dentist should have sufficient knowledge for intelligent cooperation with the physician in rendering an effective total service to the patient.

288. Principles of Medicine. Yr. 1 hr. PR: Principles of Medicine 268. A further study of general diseases about which the dental student should have intelligent working knowledge. As a part of the course requirement, the students are assigned to the hospital in groups where the teacher schedules clinical demonstrations and leads the students on ward rounds for the purpose of observing conditions that have been described in class.

Division of Social Relations

226. Oral and Written Communication. II. 2 hr. PR: English 1, 2. A course of lectures devoted to the preparation and uses of oral and written communication by the student and dentist; instruction in the use of the dental library; the compilation of bibliographies; the collection, the organization and the use of information; the oral presentation of discussions and reports; and practice in the proper procedures to be followed in the management of dental society meetings.

291. History of Dentistry. II. 1 hr. PR: Oral and Written Communication 226. A study of the beginning of the dental art, and the social forces that have shaped dentistry's growth, of the rise of dental education, of the development of dental literature, of the enactment of dental laws and their effects on the quality of dental service, and biographical facts about the principals who have contributed most to the advancement and improvement of the science of dentistry and the art of dental practice.

290. Ethics. I. 1 hr. PR: Oral and Written Communication 226. A review of the fundamental principles of ethics and their application in dental practice. The ethical obligations of the dentist to his patient, to the community, to society, to his fellow dentists, and to the physician are outlined and studied.

294. Practice Administration. I. 1 hr. PR: Ethics 290. A course designed to prepare the student for the effective management of his total professional responsibilities, both within and without his office. Special consideration is given to the problems of patient management in rendering a health service, and office management in conducting the dentist's business affairs. Practical experience in patient management is gained in clinical practice.

295. Jurisprudence. II. 1 hr. PR: Ethics 290. A course of lectures designed to acquaint the dental student with the fundamentals of law as they involve the relationship of dentist to patient, with particular emphasis on the legal rights, obligations and responsibilities of each.

297. Public Health Dentistry. II. 1 hr. PR: Principles of Medicine 268 and 288. The purpose of this course is to emphasize those practices, other than remedial treatment, that are designed to reduce the occurrence or the extension of dental diseases, to identify the place dental public health occupies in the field of general public health, and to acquaint the student with methods and materials suitable for use in administering dental public health programs.

The College of Education

GENERAL INFORMATION

In 1901 a department of Education was established in the College of Arts and Sciences of West Virginia University. Subsequently, departments of education evolved in the College of Engineering and the School of Music. In 1927, the College of Education was established by the Board of Governors of the University to unify professional training for school service.

Through its undergraduate and graduate courses, its seminars, its laboratory school, its cooperating public schools, its field services, and its encouragement and direction of educational investigation, the College of Education aims to contribute to educational efficiency by inculcating a liberal and more scientific conception of the functions of public schools and by providing the professional training of elementary-school and secondary-school teachers, principals, and supervisors, general school administrators, college teachers, educational counselors, and educational research specialists.

The College of Education comprises the College with its resident courses of instruction and its facilities for research; University High School with its opportunities for observation, student teaching, directed supervision, and experimentation; and cooperating public schools for supervised student-teaching experience.

The College of Education is "accredited by the National Council for Accreditation of Teacher Education for the preparation of elementary and secondary school teachers and school service personnel with the Doctor's degree as the highest degree approved."*

ADMISSION REQUIREMENTS

Methods of Entrance

The requirements for admission to the University College of Education are (a) graduation from a first-class high school with University entrance requirements satisfied and (b) 58 semester hours of approved college work with an average of at least two grade points per credit hour on all work presented. Students in other colleges or universities who contemplate transferring to the College of Education should so order their courses of study as to meet junior standing and should be fulfilling the curricular requirements for the certification of teachers.

Orientation and Selection

To assist students in choosing a career in the area of teaching and to maintain adequate standards for admission to teacher-training, the College of Education requires all students pursuing teacher-education programs to participate in the Orientation and Selection Program. The student is enrolled in this program concurrently with the first course taken in the College of Education.

Adviser

When the student enters the College of Education he is assigned an adviser from the College. The student will plan his program of work—required courses, electives, examinations, conference courses, etc.—in consultation with his adviser. Although the adviser desires to be helpful, this does not absolve the student from becoming familiar with all pertinent regulations and planning his program of work in accordance with the objective of his choice.

West Virginia Board of Education Regulation for Certification of Teachers

The West Virginia Board of Education requires that one hundred semester hours of the one hundred twenty-eight required for certification shall be completed

*Provisional accreditation for the Sixth-Year and the Doctoral programs.

in regularly scheduled campus courses. The twenty-eight hours of permissible non-residence courses may be earned by extension, home study (correspondence), radio, television, special examinations, and/or military service. Eighteen of the twenty-eight hours may be applied to a Second Class Temporary Elementary Certificate and twelve hours to a Third Class Temporary Elementary Certificate. Any teacher who may be penalized by the revised ruling because of credits earned before June 1, 1954, may be certified under present regulations.

Maximum Work

Students may not, without special permission, register in the College of Education for more than 18 hours during any semester and 6 hours during any summer term. Students may register in the College of Education for more than 18 hours during any semester and 6 hours during any summer term only by special permission, provided that they have gained the preceding semester a grade-point average of 2.0 or better, with no grade below C. Any student who desires to do irregular work, or to carry more than the prescribed maximum of hours, must obtain written permission from his adviser and the Scholarship Committee of the College. This permit is not valid until it has been filed with the Registrar.

Method of Computing Grade-Point Average for Certification

For teacher certification, effective June 5, 1956, the student is responsible for every registration in a course. The grade-point average is computed on all work attempted.

To be eligible for recommendation for the degrees of Bachelor of Science in Secondary Education and Bachelor of Science in Elementary Education, a candidate must:

1. Comply with the general regulations of the University concerning entrance, advanced standing, classification, examination, marks, grade points, etc.

2. Satisfy the General Requirements for Certification.

3. Complete the required courses and the minimum number of hours of approved elective courses in Education.

4. Select and pursue two teaching fields for the B.S. Degree in Secondary Education and two minor teaching fields for the B. S. Degree in Elementary Education.

5. Adhere to the patterns prescribed in completing the teaching fields.

6. Present 128 hours of approved college credit, with a general average of "C" as described under General Requirements for Certification. (Only credit earned at West Virginia University and at Potomac State College will be used in computing grade-points for graduation.) The candidate must have completed 26 hours after enrolling in the College of Education.

7. Be at least 18 years of age, of good moral character, interested in educational work, and mentally, physically, and otherwise qualified to perform the duties of a teacher.

Fullfillment of the requirements for graduation from the College of Education of West Virginia University qualifies a candidate to apply for recommendation for a West Virginia Professional Certificate.

General Requirements For Professional (First Class) Certificates

In order to teach in the public schools of West Virginia, one must hold a certificate issued by the West Virginia State Department of Education. Before any West Virginia University applicant is eligible to receive a Professional Certificate he must have (1) met the minimum State requirements, (2) met the University degree requirements, and (3) been recommended by the Dean of the College of Education as herein prescribed.

The College of Education will inform each of its students who is a prospective teacher, and any other prospective teacher, upon request, of the requirements for certification, and assist him in preparing a program of study to meet these requirements. It is the obligation of the student who desires such counsel to arrange a conference some time before the end of the sophomore year.

A candidate for certification is required to achieve a grade-point average of 2.0 ("C") or better as follows: (1) on the total of college credits earned; (2) on the hours earned in Education; (3) in student teaching; and (4) in each of the high-school teaching fields or in the non-Education courses in the elementary field.

The Dean of the College of Education recommends candidates for Professional Certificates only after the completion of work for the baccalaureate degree. To be eligible for recommendation by the University for any West Virginia Professional Certificate, the applicant must have done student teaching under the supervision of the College of Education.

At least 45 semester hours of upper-division work, West Virginia University standards, are required for all teaching certificates. The qualifications herein prescribed are minimum, not optimum or maximum, and must be met by all candidates.

General Subject-Matter and Educational Requirements for Professional Certificates Valid for Five Years

	Professional Grades 1-9	*Professional Grades 7-12*	*Music & Speech Professional Grades 1-12*
Required Courses	*Hr.*	*Hr.*	*Hr.*
English and Speech			
Written and Spoken English			
English 1, 2	6	6	6
Advanced Written and Spoken English			
English 18	3	3	3
Study and Appreciation of Literature			
English 5 *or* 6 (American)	3)	3)	3)
OR	*or*	*or*	*or*
English 3 *or* 4 (English)	3)	3)	3)
Background of (Child) Literature			
Library Science 203	3		
Speech			
Speech 3 (Voice and Diction)			
or Speech 11 (Public Speaking)	3		
Minimum Requirement	18	12	12
Social Science	*Hr.*	*Hr.*	*Hr.*
Development of Social Institutions			
History 1, 2	6)	6)	6)
OR	*or*	*or*	*or*
Humanities 1, 2	8)	8)	8)
Fundamental Social Problems			
Social Science 1, 2,	8	8	8
American History: Hist. 52, 53	6		
West Virginia History: Hist. 150	3		
Geography			
Geog. 107 (Introductory) *or*	3		
Geog. 109 (Economic)			
Minimum Requirement	26-28	14-16	14-16
Science and Mathematics	*Hr.*	*Hr.*	*Hr.*
General Biology 1, 2		8)	8)
OR		*or*	*or*
Physical Science 1, 2 (general)		8)	8)
General Biology 1, 2 *AND*			
Physical Science 1			
OR			
Physical Science 1, 2 *AND*			
Biology 1	12		
Conservation: Forestry 140	3		
Mathematics for teachers			
Arithmetic 6	3		
Minimum Requirement	18	8	8

	Professional Grades 1-9	*Professional Grades* 7-12	*Professional Grades* 1-12 *Music & Speech*
Music	*Hr.*	*Hr.*	*Hr.*
Music in Human Relations			
Music 10	2	2	2
Music as an Art and Science			
Music 11	2		
Music Materials and Procedures			
Music 12	2		
MINIMUM REQUIREMENT	6	2	2
Art	*Hr.*	*Hr.*	*Hr.*
Art Appreciation			
Art 30 *or* 130	2	2	2
Creative Expression in the Fine Arts:			
Art 1	2		
Creative Expression in the Applied Arts:			
Art 2	2		
MINIMUM REQUIREMENT	6	2	2
Physical Well-being	*Hr.*	*Hr.*	*Hr.*
Orientation in Physical Education			
For Men: Phys. Educ. 1, 2	0	2	2
For Men: Phys. Educ. 1, 2, 43	4	0	0
For Women: Phys. Educ. 3; 3 hr. from Phys. Educ. 4 to 25, 101, 102	0	4	4
For Women: Phys. Educ. 41, 42, 43	4	0	0
Health Education 101	2	2	2
MINIMUM REQUIREMENT	6	4-6	4-6

(Even if the Physical Education requirement for graduation from the University has been waived because of a special permit from the University Health Service, two semester hours in Physical Education are required of an applicant for a Professional Certificate, Grades 7-12, or for a Professional Certificate, Grades 1-12, and four semester hours of Physical Education are required of an applicant for a Professional Certificate, Grades 1-9.)

Professional Education	*Hr.*	*Hr.*	*Hr.*	*Hr.*
Human Growth and Dev., Ed. 105, 106	6	6	6	6
Adolescent Adjustment, Ed. 114		3	3	3
Stu. Teaching, Sec. Sch., Ed. 124		4	4	
Prin. of Teaching, Sec. Sch., Ed 120		2	2	2
Mat. and Methods. Sec. Sch., Ed. 150-170		2	2	
Approved Electives in Sec. Educ.		3		
Stu. Teaching, El. Sch. Music, Ed. 115			2	
Mat. and Methods, El. Sch. Music, Ed. 130			2	
Mat. and Methods, Speech Correction and Audiology, Grades 1-12, Ed. 127				4
Stu. Teaching, Pub. Sch. Speech and Hearing Therapy, Ed. 128				6
Psych. and Management, El. Sch., Ed. 141	3			
Language Arts in El. Sch., Ed. 142	3			
Arithmetic in El. Sch., Ed. 143	2			
Social Studies in El. Sch., Ed. 144	2			
Science in El. Sch., Ed. 145	2			
Stu. Teaching, El. Sch., Ed. 146	6			
MINIMUM REQUIREMENT	24	20	21	21

NOTE: To be recommended by the University for any Professional Certificate, students shall complete a minimum of 8 semester hours in student teaching and methods at the University.

PROGRAMS FOR PROFESSIONAL CERTIFICATES, GRADES 1-9

Requirements for the Degree of Bachelor of Science in Elementary Education and for Recommendation for the Professional Certificate, Grades 1-9

Foundation—Lower-Division Work

In preparation for admission to the College of Education and the work of preparing for teaching in elementary schools, students will register the freshman and sophomore years in the College of Arts and Sciences and pursue the program of general education that the State Board of Education has prescribed for all students who seek recommendation for teaching certificates. This program of prescribed work is included in the "Curriculum for Professional Certificates, Grades 1-9."

Training—Upper-Division Work

Admission: For admission to the prescribed courses in Elementary Education (Educ. 141, 142, 143, 144, 145, 146, and 147), including the noncredit Conference courses, students shall register the final two years in the College of Education.

NOTE: If, because of credits earned before June 1, 1950, in partial fulfillment of the requirements for an elementary certificate, a teacher with three or more years of elementary experience prior to the date he applies for certification would be penalized by having to meet the requirements in full, as described on pages 8 and 9 of the State Certification Bulletin, he may qualify provided he has made every possible effort to meet the requirements in full and has taken no electives since June 1, 1950, until or unless all courses prescribed in said pages 8 and 9 for the desired certificate have been taken. **(State Certification Bulletin).**

Subject Matter: In lower-division work students should pursue the lower-division required courses, so that the greatest possible number of hours taken during the junior and senior years may be courses giving upper-division credit.

Graduation and Certification Requirements: To become eligible for recommendation for the degree of Bachelor of Science in Education and for the Professional Certificate, Grades 1-9, the student must complete the required curriculum and plan of work with a grade-point average of 2.0 ("C") or better, as follows: (1) on the total of college credits earned; (2) on the hours earned in Education; (3) in each of two minor teaching fields; (4) in student teaching; and (5) in non-Education courses; and have been enrolled in the College of Education for at least 26 semester hours of work, including a minimum of 8 semester hours in student teaching and methods taken at the University.

Requirements for Minor Teaching Fields

Since this certificate is valid in the junior high school, grades 7-9, students must complete the requirements in two teaching fields. A minimum of 15 hours (12 hours in mathematics) of work prescribed for a high school teaching field is required in each field.

Art:	Drawing, design, and painting.
Commerce:	Typewriting, shorthand, and accounting
English:	Composition and literature.
Foreign Language:	Composition, grammar, and literature.
General Science:	General biological science and general physical science, chemistry, or physics.
Home Economics:	Foods and nutrition, textiles and clothing.
Industrial Arts:	Drawing, general shop, and organization of industrial arts.
Mathematics:	College algebra.
Music:	Theory and applied music.
Physical Education:	Health problems for the school child and organization and administration of health and physical education.
Social Studies:	American history and world geography.
Speech:	Fundamentals of speech, voice, and diction, play directing, and speech correction.
Teacher-Librarian:	Cataloguing and classification, book selection, and reference and bibliography.

NOTE: A minor teaching field may be added to a Professional Certificate, Grades 7-12 by completing the requirements for minor teaching fields as listed above.

Requirements for Second-Class Temporary Elementary-School Certificate

English	*Hr.*
(15 semester hours)	
Written and Spoken English	
English 1, 2	6
Advanced Written and Spoken English	
English 18	3
Study and Appreciation of Literature	
English 3 or 4 (English Lit.) *or*	
English 5 or 6 (Amer. Lit.)	3
Background of Child Lit.	
Lib. Sci. 203	3

Social Studies	*Hr.*
(17-19 semester hours)	
Development of Social Institutions	
Hist. 1, 2 or Humanities 1, 2	6-8
Fundamental Social Problems	
Social Sci. 1, 2	8
History	
History 150	3
OR	
Geography	
Geog. 107 (Introductory) *or*	
Geog. 109 (Economic)	

Science and Mathematics	*Hr.*
(11 semester hours)	
Biol. 1,2	8
OR	
General Physical Sci. 1, 2	8
Arithmetic for Teachers	
Math. 6	3

Music	*Hr.*
(4 semester hours)	
Music in Human Relations	
Music 10	2
Music as an Art and Science	
Music 11	2

Art	*Hr.*
(4 semester hours)	
Art Appreciation	
Art 30 *or* 130	2
Creative Expression in the Fine Arts	
Art 1	
OR	
Creative Expression in the Applied Arts	
Art 2	2

Health and Physical Education	*Hr.*
(4 semester hours)	
Physical Education for Men	
Phys. Ed. 1 and 2 *or* 43	2
Physical Education for Women	
Phys. Ed. 41 and 42 *or* 43	2
Health Education	
Health Educ. 101	2

Education	*Hr.*
(17-24 semester hours)	
Human Growth and Development	
Educ. 105, 106	6
Psychology and Management, El Sch.	
Educ. 141	3
Language Arts in El. Sch.	
Educ. 142	
Arithmetic in El. Sch.	
Educ. 143	
Social Studies in El. Sch.	
Educ. 144	
Science in El. Sch.	
Educ. 145	5
Student Teaching	
Educ. 147	3

Electives	*Hr.*
(24 semester hours)	

OTHER REQUIREMENTS:

1. To pursue this program a student is required to (a) enroll in the College of Education and (b) have a Third-Class Elementary or Standard Normal Certificate or have a minimum of one year's teaching experience in the public schools.
2. No more than 18 semester hours by extension and/or correspondence can be accepted.
3. A grade-point average of 2.0 ("C") or better, as follows: (1) on the total of college credits earned; (2) on the hours earned in Education; (3) in student teaching; and (4) in non-Education courses.
4. Thirty-two semester hours must have been completed in residence at the University or 32 semester hours must have been completed in residence at one institution with at least 16 hours completed in residence at the University.

Requirements for Provisional Professional Certificate, Grades 1-9

Provisional Professional Certificates, Grades 1-9 (valid for three years for teaching in the elementary school) will be issued to applicants who:

1. Have an undergraduate degree and the recommendations of the Dean of the College of Education.

2. Are within 18 hours of meeting the requirements for a Professional Certificate, Grades 1-9.
3. Have completed 15 hours of Elementary Education (including a course in teaching), selected from courses applicable for a Professional Certificate, Grades 1-9.
4. Have completed a part of the required courses in English, social studies, science and mathematics, music, art, and physical education.

PROGRAM FOR PROFESSIONAL CERTIFICATE, GRADES 7-12

Education: Courses Required and Electives Approved for the Professional Certificate, Grades 7-12

(A minimum of 20 semester hours of approved Education courses is required for a Professional Certificate, Grades 7-12, and a maximum of 24 semester hours will be accepted.)

I. *Required Courses* — *Semester Hours*

Sophomore or Junior Year

Ed. 105. Educational Psychology—Human Growth and Development 3
Ed. 106. Educational Psychology—The School Program and Pupil Development 3

Senior Year

Ed. 124. Student Teaching ..... 4) to be
Ed. 150-170. Materials and Methods ..... 2) taken as
Ed. 120. Principles of Teaching in Secondary Schools .... 2) a block
Ed. 114. Educational Psychology—Adolescent Adjustment .. 3

II. *Approved Electives in Secondary Education—Junior or Senior Year* 3-7

Selected from Education:

Ed. 109, 136, 150-170, 197, 203, 212, 221, 222, 231, 233, 259, 262 or 266, 276 or 277, 284, 285, 291.

(In most cases, Ed. 109 or 136 is the preferred elective.)

High-School Teaching Fields

Students desiring to qualify for a Professional Certificate, Grades 7-12, must complete the requirements in two teaching fields.

AGRICULTURE—VOC. AGR.	*First Teaching Field*
Minimum Requirements	50 hr.
I. *Required Courses*	
1. Farm Crops, Soils and Horticulture: Agron. 1, 2, Hort. 1, 2, *or* 229	11
2. Animal, Dairy, and Poultry Husbandry: An. Husb. 11, 101, Dairy Husb. 11, and Poultry Husb. 1	13
3. Agricultural Economics: Agr. Econ. 102, 104	6
4. Agricultural Mechanics: Agr. Mech. 152, 153, and one elective	9
5. Plant or Animal Pathology: An. Path. 102 *or* Pl. Path. 201	3-4
II. *Electives in the above fields and in Agricultural Education, Entomology, Forestry, and Genetics*	7-8

Agr. Econ. 105, 131, 200, 206, 230, 271
Agr. Educ. 118
Agr. Mech. 113, 151, 159, 170, 175, 200, 252, 254, or I.E. 7

Agronomy 205, 210, 211, 251, 254
Genetics 111, 112
An. Husb. 138, 141, 142, 162, 167
An. Path. 206
Poultry Husb. 103, 105, 106, 108, 201, 213
Dairy Husb. 12, 107, 123, 124, 221, 222
Hort. 104, 115, 117, 206, 208, 212, 229, 232, 234
Entomology 202

NOTE: Teachers of Vocational Agriculture must be approved by the State Supervisor of Vocational Agriculture and the Vocational Agriculture Teacher-Trainer.

ART	*First Teaching Field*	*Other Teaching Field*
Minimum Requirements	32 hr.	25 hr.
I. *Required Courses*		
1. Freehand Drawing: Art 11 *or* 111, 12 *or* 112	6	6
2. Design: Art 121, 122	6	6
3. Painting: Art 113, 114	6	6
4. Modeling: Art 126	2	2
5. History and Appreciation of Art: Art 30 *or* 130, 105, 106	8-9	5
II. *Electives (unrestricted)*	3-4	

COMMERCE	*First Teaching Field*	*Other Teaching Field*
Minimum Requirements	32 hr.	27 hr.
I. *Required Courses*		
1. Business Mathematics (Math. 8)	3	3
2. Accounting: Accounting 1, 2	6	6
3. Marketing or Retailing: Marketing 111 or 115	3	3
4. Typewriting: Secretarial Studies 61, 62	4	4
5. Shorthand: Secretarial Studies 125, 126	8	8
6. Secretarial Training and Office Practice: Secretarial Studies 131	3	3
II. *Electives (unrestricted in the field)*	5	

NOTE No. 1: Economics 1 and 2 are prerequisite for Marketing 111 and 115 and may be used to meet elective requirements in the first teaching field.
NOTE No. 2: Completion of the following courses (9 sem. hr.) will qualify the candidate to teach Commerce (Business Principles) in addition to Commerce (Occupational): Econ. 111, Money and Banking; Econ. 119, Economics of Consumption; and Business Law 111.

ENGLISH	*First Teaching Field*	*Other Teaching Field*
Minimum Requirements	35-36 hr.	24 hr.
I. *Required courses (exclusive of 6 hr. of Freshman Composition)*		
1. Written or Spoken English English 18 (3 hr.), Speech 3, 6, 11, *or* 29 (3 hr.)	6	6
2. Literature English 3 and 4, *or* 163, and 164 (6 hr.) Survey: English Literature English 5, 6 (6 hr.) American Literature	12	12

II. *Electives*	17-18	6
1. Literature (Upper-division period or type courses: include not more than 3 hr. in any one type or period. Suggested choices: 142, 160, 161, 166, 173, 175, 138 or 139, 140, 141; one or more "200" courses in authors or period of special interest to the student.)	12	6
2. Two of the following: Journalism 215 (2 hr.) Library Science 1 or 101 (3 hr.) Speech 162 (3 hr.)	5-6	

FOREIGN LANGUAGES

A. FRENCH	*First Teaching Field*	*Other Teaching Field*
Minimum Requirements	30 hr.	24 hr.
I. *Required Courses*		
1. Elementary French: French 1, 2	6	6
2. Intermediate French: French 5, 6	6	6
3. Advanced Grammar, Conversation, and Composition: French 109, 231	6	6
4. Literature of the 17th, 18th, and 19th Centuries: French 115, 116, 118	6	6
II. *Elective Courses in French*—French 103, 104, 217	6	

NOTE: Two semester hours may be deducted in the first teaching field for each high school unit with a maximum of 6 hours deduction, unless the equivalent courses are taken for University credit.

B. GERMAN	*First Teaching Field*	*Other Teaching Field*
Minimum Requirements	30 hr.	24 hr.
I. Required Courses		
1. Elementary German: German 1, 2	6	6
2. Intermediate German: German 3, 4	6	6
3. Spoken German: German 111, 112	6	6
*4. Survey of German Literature: German 245	3	3
*5. History of German Language: German 251	3	
II. Elective Courses in German (unrestricted)	6	3

*With the approval of the German Department, other German graduate courses in these fields may be substituted for German 245 and 251.
NOTE: Two semester hours may be deducted in the first teaching field for each high school unit with a maximum of 6 hours deduction, unless the equivalent courses are taken for University credit.

C. ITALIAN	*First Teaching Field*	*Other Teaching Field*
Minimum Requirements	30 hr.	24 hr.
I. *Required Courses*		
1. Elementary Italian: Italian 1, 2	6	6
2. Intermediate Italian: Italian 5, 6	6	6
3. Grammar, Composition, and Conversation: Italian 109, 110	6	6
4. Italian Literature: Italian 115, 116	6	6
II. *Electives*	6	

NOTE: Two semester hours may be deducted in the first teaching field for each high school unit with a maximum of 6 hours deduction, unless the equivalent courses are taken for University credit.

D. LATIN	*First Teaching Field*	*Other Teaching Field*
Minimum Requirements	30 hr.	24 hr.
I. *Required Courses*		
1. Grammar and Composition: Latin 1, 2	6	4
2. Cicero's Orations: Latin 4 or 203	3	3
3. Virgil's Aeneid: Latin 235	3	3
II. *Electives (unrestricted)*	18	14

NOTE: Two semester hours may be deducted in the first teaching field for each high school unit with a maximum of 6 hours deduction, unless the equivalent courses are taken for University credit.

E. SPANISH	*First Teaching Field*	*Other Teaching Field*
Minimum Requirements	30 hr.	24 hr.
I. *Required Courses*		
1. Elementary Spanish: Spanish 1, 2	6	6
2. Intermediate Spanish: Spanish 5, 6	6	6
3. Adv. Grammar, Conversation, and Pronounc: Spanish 109, 110	6	6
4. Survey of Literature: Spanish 103, 104, 216	6	6
II. *Elective Courses in Spanish*—Spanish 211, 212 ...	6	6

NOTE: Two semester hours may be deducted in the first teaching field for each high school unit with a maximum of 6 hours deduction, unless the equivalent courses are taken for University credit.

HOME ECONOMICS—Vocational Certificate	*First Teaching Field*
Minimum Requirements	40 hr.
I. *Required Courses*	
1. Family Economics and Home Management: Selected from Home Econ. 4, 124, 134, 214, 234	8-12
2. Housing, Home Furnishing, Equipment, and Applied Art: Selected from Home Econ. 3, 23, 123, 254, 133, 233	8-12
3. Foods and Nutrition: Selected from Home Econ. 1, 101, 121, 15, 115, 215	15
4. Clothing and Textiles: Selected from Home Econ. 2, 12, 102, 212, 222, 17, 117, 217	15
5. Family Relationships and Child Development: Selected from Home Econ. 106, 114, 206, 264	6-9

HOME ECONOMICS—General Certificate	*First Teaching Field*	*Other Teaching Field*
Minimum Requirements	36 hr.	24 hr.
I. *Required Courses*		
1. Foods and Nutrition: Home Econ. 1, 15, 115, 101	8	6
2. Textiles and Clothing: Home Econ. 2 *or* 12, 17; electives chosen from courses ending with 2 or 7	8	6
3. Applied Art: Home Econ. 3, 23, 123, 133, 233 (23 or 123 is required)	8	4
4. Home Management (to include Home Management Residence): Home Econ. 114, 134, 234	8	3
5. Child Development: Home Econ. 106	3	3
II. *Electives (unrestricted)*	1	2

INDUSTRIAL ARTS	*First Teaching Field*	*Other Teaching Field*
Minimum Requirements	32 hr.	24 hr.
I. *Required Courses*		
1. Drawing—Mech. Eng'g 20 *or* 26; one of the following: Ed. 238, Art. 11 or 111, 12 or 112, 121, 122	4	4
2. General Shop:—Ed. 107 *or* 108	3	3
3. Organization of Industrial Arts: Ed. 194	2	2
II. *Electives (restricted to shop courses)*	23	15

Shop electives are to be taken in three or more of the shop areas, with a minimum of 6 semester hours in one and not less than 3 semester hours in two additional areas, such as:

Automotive—Ed. 247; Agr. Mech. 175
Ceramics—Ed. 243; Art 126
Design—Ed. 238;Art 121, 122
Electricity—Ed. 248; Agr. Mech. 170, 270; E.E. 10; Physics 113, 114
General Metal—Ed. 104, 240, 241, 249; I.E. 7, 11
Leather—Ed. 244; Art 127
Photography—Physics 116, 257; Journ. 120
Plastics—Ed. 245
Printing—Ed. 246; Journ. 110, 118
Woodwork—Ed. 102, 103, 204

NOTE: No credits may be counted twice by being submitted in more than one group.

NOTE: Speech 164 and 166 are recommended as electives, but may not be used to meet the minimum requirements for certification.

LIBRARY SCIENCE	*First Teaching Field*	*Other Teaching Field*
Minimum Requirements	26 hr	26 hr.
I. *Required Courses*		
1. Using Books and Libraries: Lib. Sci. 1	2	2
2. Reference and Bibliography: Lib. Sci. 101	3	3
3. Children's Literature and Story Telling: Lib. Sci. 203	3	3
4. Book Selection for Adults: Lib. Sci. 225	3	3
5. Book Selection for Adolescents: Lib. Sci. 205	3	3
6. Library Resources for Children and Young People: Lib. Sci. 230	3	3
7. Administration of the School Library: Lib. Sci. 207	3	3
8. Library Practice: Lib. Sci. 222	3	3
9. Cataloguing and Classification: Lib. Sci. 223	3	3

MATHEMATICS	*First Teaching Field*	*Other Teaching Field*
Minimum Requirements	24 hr.	22 hr.
I. *Required Courses*		
1. College Algebra: Math. 2 or 3	3	3
2. Plane Trigonometry: Math. 4	3	3
3. Solid Geometry: Math. 7	3	3
4. Analytic Geometry: Math. 5	4	4
5. Calculus: Math. 107, 108	8	
II. *Electives—any of the following:* Math. 106, 107, 108, any course in the 200 series	3	9

MUSIC	*First Teaching Field*	*Other Teaching Field*
Minimum Requirements	50 hr.	24 hr.
I. *Required Courses*		
1. Theory: Music 1, 2, 3, 117, 118, 119, or 120	16	6
2. History or Appreciation of Music: selected from Music 240, 241, 280, 281	6	3
3. Applied Music, including Piano, Voice, Band and Orchestral Instruments: selected from Music 79, 80, 89, 90, 150, 188, 189, 190, 191, 193, 194, 195, 196, 197	16	9
4. Conducting and Musical Organizations: Music 181 or 182 (2 hr. ea.), Music 183 (required), 185, (3 hr. ea.), 4 hr. selected from Music 100, 101, 102, 103, 104	12	4
II. *Electives (unrestricted)*		2

NOTE: Students applying for the Professional Certificate, Grades 1-12, are required to complete 50 hours in Music.

PHYSICAL EDUCATION	*First Teaching Field*		*Other Teaching Field*	
Minimum Requirements	35 hr.		27-28 hr.	
I. *Required Courses*				
1. Anatomy and Kinesiology: Phys. Ed. 175	5		5* *or*	
2. Physiology: Zool. 171	4		4*	
3. Principles of Organization and Administration of Physical Education: Phys. Ed. 278	3		3	
4. Health Education: Health Ed. 2, 101	4		4	
5. Physical Inspection and Correction of Remedial Defects: Phys. Ed. 176	2		2	
6. Theory and Practice in Physical Education	17		14	
	Men	*Women*	*Men*	*Women*
a. Orientation: Phys. Ed. 71	2	2	2	2
b. Team Sports: Phys. Ed. 51, 55, 56	5	0	5	0
Team Sports: Phys. Ed. 31, 32, 63	0	3	0	3
c. Recreation Activities: Phys. Ed. 52, 53, 54	3	0	3	0
Recreation Activities: Phys. Ed. 33, 54, 61	0	4	0	4
d. School and Community Relations: Phys. Ed. 121; Recreation 4	5	0	3-4	0
Recreation Activities: Phys. Ed. 66, 127; Recreation 4	0	5	0	3-4
e. Rhythmic Activities: Phys. Ed. 5, 132	2	0	1	0
Rhythmic Activities: Phys. Ed. 5, 35, 36, 132, 171	0	3	0	3

*For the second teaching field, students take either Phys. Ed. 175, 5 hr., **or** Zool. 171, 4 hr.

SCIENCES

A. BIOLOGICAL SCIENCE	*First Teaching Field*	*Other Teaching Field*
Minimum Requirements	32 hr.	24 hr.
I. *Required Courses*		
1. Biology 1, 2	8	8
2. Chemistry 1, 2 *or* Phys. Sci. 1, 2	8	6

II. *Electives (from below)*	16	10

Electives will be chosen from the following, and must include a minimum of 5 hours in plant life and 5 hours in animal life:

Animal Pathology 102, 206
Bacteriology 141
Biology 201, 202, 204, 205, 208, 209, 211
Botany 104, 161, 224, 227, 263, 266
Entomology 200, 202
Forestry 140, 141, 144, 145, 183
Genetics 111, 112, or 221
Plant Pathology 201, 203
Zoology 171, 210, 221, 222, 223, 265

NOTE: A candidate for a teaching certificate who elects Biological Science as a first teaching field may not elect Biological and General Science as a second teaching field.

B. BIOLOGICAL AND GENERAL SCIENCE	*First Teaching Field*	*Other Teaching Field*
Minimum Requirements	42 hr.	35 hr.
I. *Required Courses*		
1. Biology 1, 2	8	8
2. Chemistry 1, 2	8	8
3. Physics 1, 2	8	8
4. Geology 1, 2	3-4	3-4
II. *Electives*	14-15	8

1. Electives selected from those listed for teaching field in Biological Science (above)—a minimum of 8 hours for either teaching field. Must include a minimum of 4 hours in plant life and 4 hours in animal life. (Minimum of 16 hr. in Biological Science is required).
2. Chem. 5, 6, 10, 15, 31, 63
3. Physics 113, 114, 116, 117, 118
4. Geology 3, 170

NOTE: A candidate for a teaching certificate who elects Biological and General Science as a first teaching field may not elect Biological Science as a second teaching field.

C. PHYSICAL SCIENCE	*First Teaching Field*	*Other Teaching Field*
Minimum Requirements	36 hr.	24 hr.
I. *Required Courses*		
1. Chemistry: Chem. 1, 2	8	8
2. Chemistry: Chem. 5 or 105, 6 or 106, 31 or 131	4	4
3. Physics: Physics 1, 2, 111, 112	8	8
II. *Electives—(at least 4 hours must be in Chemistry and/or Physics)*	16	4

1. Chemistry
2. Physics
3. Geology (not Geography)

NOTE: A Candidate for a teaching certificate who elects Physical Science as a first teaching field may not elect Physical and General Science as a Second teaching field. Phys. Sci. 1, 2 not accepted.

D. PHYSICAL AND GENERAL SCIENCE	*First Teaching Field*	*Other Teaching Field*
Minimum Requirements	42 hr.	34 hr.
I. *Required Courses*		
1. Chemistry: Chem. 1, 2	8	8
2. Chemistry: Chem. 5 or 105, 6 or 106, 31 or 131	4	4
3. Physics: Physics 1, 2	8	8
4. Biology: Biol. 1, 2	8	8
5. Geology: Geol. 1, 2	4	4
II. *Electives: (At least 4 hours must be in Chemistry and/or Physics)*	10	2
1. Chemistry		
2. Physics		
3. Geology (not geography)		
4. Biology		

NOTE: A candidate for a teaching certificate who elects Physical and General Science as a first teaching field may not elect Physical Science as a second teaching field.

SOCIAL STUDIES	*First Teaching Field*	*Other Teaching Field*
Minimum Requirements	30 hr.	24 hr.
I. *Required Courses (Exclusive of general Social Studies requirements).*		
1. History: Hist. 52, 53, 150 *or* 250	9	9
2. Political Science: Pol. Sci. 2, 120, 221	3	3
3. Economics. Econ. 1 or 2*	3	3
4. Sociology: Sociol. 1, 104, or any 200 course except 202 and 246	3	3
5. Geography: Geog. 107 *or* 109	3	3
II. *Electives (upper division courses from the five departments listed above).*	9	3

*Only 3 hours of economics are required for certification, but Econ. 1 and 2 are prerequisite to all upper-division courses in economics.

SPEECH	*First Teaching Field*	*Other Teaching Field*
Minimum Requirements	36 hr.	24 hr.
I. *Required Courses*		
1. Voice and Diction: Speech 3	3	3
2. Acting: Speech 6	3	3
3. Public Speaking: Speech 11	3	3
4. Oral Interpretation: Speech 29	3	3
5. Group Discussion: Speech 120	3	0
6. Argumentation and Debate: Speech 121	3	3
7. Introduction to Radio: Speech 140	3	0
8. Stage Craft: Speech 161	3	3
9. Play Directing: Speech 162	3	3
10. Speech Correction: Speech 250, 251	3	3
II. *Electives in Speech (unrestricted)*	6	0

SPEECH AND HEARING THERAPY, PROFESSIONAL CERTIFICATE, GRADES 1-12

	Semester Hours
Minimum Requirements	44
I. *Required Areas*	
1. Public Speaking: Speech 11	3
2. Intro. to Speech Correction: Speech 250, 251	3
3. Adv. Speech Correction: Speech 259 or 275	3
4. Anatomy and Physiology of Speech and Hearing Mechanisms: Speech 256	4
5. Phonetics: Speech 254	4
6. Stuttering and other Organic Disorders: Speech 252, 259, 273	6
7. Audiology: Speech 253, 255, 271, 272	12
8. Clinical Method (Observation and Practice):* Speech 257, 258	4
II. *Electives (exclusive of Human Development)*	6
Speech 270, Psych. 122, 125, 206, 223, 229, 233, 234, 236	

*Practice training must be received where conferences can be held with clinician holding the advanced certificate of the American Speech and Hearing Association in speech and/or hearing therapy. Minimum total clock hours in clinical methods and practice to be 300, of which 100 clock hours to be in Hearing Therapy and 200 clock hours in Speech Therapy, in addition to Directed Teaching.

NOTE: A field of specialization in Speech Therapy only includes all requirements listed above except for the exclusion of 9 semester hours in Audiology and the exclusion of 100 clock hours in Clinical Method in Hearing Therapy.

REQUIREMENTS FOR PROVISIONAL PROFESSIONAL CERTIFICATES, GRADES 7-12

Provisional Professional Certificates, Grades 7-12 (valid for 1 year for teaching in junior and/or senior high school) will be issued to applicants who meet the following requirements:

1. Graduation and recommendation by the Dean of the College of Education.
2. General Requirements: Fifteen hours of secondary education, including a course in student teaching, to be selected from the courses applicable for a first-class certificate. Three-fourths of the teaching subject-matter requirements of each division of each teaching field as designated for the Professional Certificate, Grades 7-12.

MASTER OF ARTS

REQUIRED FOR ADMISSION TO GRADUATE WORK IN EDUCATION

1. General requirements for admission to the Graduate School.
2. Seventeen semester hours of approved undergraduate credit in Education.

REQUIREMENTS FOR ADMISSION TO CANDIDACY FOR THE MASTER'S DEGREE IN EDUCATION

Admission to the Graduate School and to graduate work in Education do not constitute admission to candidacy for a Master's Degree. Graduate students shall apply to the *Committee on Admissions* for admission to candidacy for the Master's Degree in Education. Applicants who have undergraduate averages the equivalent of 2.5 or better may be admitted to candidacy when they have met the following requirements:

1. A first-class teaching certificate or at least 17 semester hours of approved undergraduate credit in Education.
2. A maximum of 14 semester hours of graduate credit completed prior to admission to candidacy. At least 6 of these hours must be in Education and must have been taken in residence at West Virginia University. *Students can take no more than 8 hours in extension prior to their enrollment in residence at the University.*

3. A satisfactory score on preliminary examinations in general ability, written English, and such other areas as the *Committee on Admissions* may prescribe.
4. A minimum of one year's teaching experience for administrative programs, such as principals, superintendents, and supervisors.
5. A candidate for an administrative program must secure written approval from the adviser in order to be admitted to the program.

The *Committee on Admissions,* appointed by the Dean of the College of Education, will consider individually those applicants for admission to candidacy who do not meet these criteria.

A candidate conditionally admitted, who, upon the completion of a maximum of 15 semester hours of graduate work in residence, has not achieved a grade-point average of 2.5 or better, shall not be regularly admitted to a program of study leading toward a Master's Degree in Education.

OPTIONAL ROUTES TOWARD A MASTER'S DEGREE IN EDUCATION

A. Thirty semester hours, including Ed. 301 and a maximum of four to six semester hours of research (Education 361, Thesis) and the remaining hours in approved course work. Examination (oral, written, or both, at the discretion of the individual members of the committee) by the candidate's advisory committee.

B. Thirty semester hours, including Ed. 301 and three semester hours of research (Ed. 360, Problem), selected in conference with the candidate's committee, directed by the adviser, with final approval by the committee, and 27 semester hours of approved course work. Examination (oral, written, or both, at the discretion of the individual members of the committee) by the candidate's advisory committe.

C. Thirty-six semester hours, including a minimum of 10 semester hours of approved course work outside the field of Education. Examination (oral, written, or both, at the discretion of the individual members of the committee), by a committee of at least three.

NOTE: A candidate who fails the final Master's Degree examination may, upon written consent of his examining committee, be given a second examination not earlier than the following term or semester. A candidate who fails the second examination may, upon written request and with the unanimous consent of his committee, be given a third and final trial no earlier than one calendar year from the date of his second examination.

SPECIAL REQUIREMENTS FOR THE MASTER'S DEGREE IN EDUCATION

1. No student may be awarded a Master's Degree in Education unless the student has a minimum grade-point average of "C" (2.0) on all work taken for graduate credit. (A grade of less than "C" does not carry credit toward a graduate degree, but will be counted in determining the grade-point average.)
2. No student will be permitted to repeat a required graduate course more than once.

NOTE: All persons working toward administrative certificates in Education or who wish to add additional administrative certification shall be required to pass the screening examination required of all candidates for the Master's Degree in Education.

GRADUATE ADVISERS

Each Education student enrolled in the Graduate School will be directed by the appropriate one of the following advisers:

Mr. Allen: Industrial Arts and vocational education
Mr. Baldwin: Superintendents; general school administration
Miss Brown and Miss Noer: Home Economics Education
Mr. Butler: Agricultural Education
Mr. Brennan: Industrial Arts
Mr. Feaster: Graduate specials
Mr. Hofstetter: Supervisors, elementary-school principals, and secondary-school principals
Mr. Kennedy and Mr. Morrone: Elementary-school classroom teachers
Mr. Jarecke and Mr. Morrone: Guidance
Mr. Cook and Mr. Peluso: Secondary-school classroom teachers

Graduate Professional Curricula

CURRICULUM FOR SUPERINTENDENTS

Degree: Master of Arts

Required Courses ..... 24 Hr.

Ed. 203. Organization and Administration of Adult Education, *OR* Ed. 357, Organization and Administration of Vocational Education..2
Ed. 231. Philosophy of Education, *OR* Ed. 233, Educational Sociology ..2
Ed. 301. Introduction to Educational Research 2
Ed. 308. The Teaching of Arithmetic, *OR* Ed. 309, The Teaching of Reading 2
Ed. 326. Practice in the Supervision of Elementary-school Instruction ..2
Ed. 335. The Elementary-school Curriculum, *OR* Ed. 336, The Secondary-school Curriculum 2
Ed. 339. Public-school Organization and Administration 2
Ed. 340. Public-school Finance 2
Ed. 341. School Buildings and Equipment, *OR* Ed. 343, School Surveys, *OR* Ed. 344, Staff Personnel Administration 2
Ed. 346. Principles of Supervision 2
Ed. 353. The Secondary-school Principal 2
Ed. 356. The Elementary-school Principal 2

Other requirements ..... 6-12 Hr.

Option A—Thesis (Ed. 361), 4-6 hr. 4-6
Option B—Problem (Ed. 360), 3 hr., Elective, 3 hr., to the chosen with the adviser's approval 6
Option C—Electives, at least 10 hr. in academic fields, to be chosen with the adviser's approval 12
TOTAL FOR MASTER'S DEGREE .....30-36 Hr.

NOTE: For those who already hold a Master's Degree and who wish to qualify for the University's recommendation for a Superintendent's Certificate, the following courses (described above) will satisfy:

I. *Required Courses* ..... 16 Hr.
General Administration: Ed. 339, 340, 203 *or* 357, 341 *or* 343 *or* 344 4-8 Hr.
Elementary-school Administration: Ed. 326, 335,* 356 .....4 Hr.
Secondary-school Administration: Ed. 327, 336,* 346, 353 .....4 Hr.

*Ed. 335 **or** 336 (not both) can be accepted.

The School Laws of West Virginia require "At least 5 years of experience in teaching, administration, or supervision, or any combination thereof aggregating five years." In addition, a health certificate is required.

Since most of the courses listed above have prerequisites, the consent of the instructor must be obtained before enrolling.

CURRICULUM FOR HIGH-SCHOOL PRINCIPALS[1]

Degree: Master of Arts

I. *Required Courses* ..... 14 Hr.

Ed. 301. Introduction to Educational Research 2
Ed. 327. Practice Supervision of Secondary-school Instruction (take late) 2
Ed. 336. The Secondary-school Curriculum 2

[1]Completion of this curriculum also fulfills the scholastic requirements for certification in West Virginia as a high-school principal. Other requirements for the high-school principal's certificate are (1) graduation from an accredited college or university and qualifications for a Professional Certificate, valid in Grades 7-12; (2) three years of secondary-school teaching experience in Grades 7-12, (not in a one-teacher school), and (3) a health certificate. Since most of the courses in this curriculum have prerequisites, the consent of the instructors must be obtained prior to enrollment.

Ed. 339. Public-school Organization and Administration (take early) 2
Ed. 346. Principles of Supervision (take early) 2
Ed. 353. The Secondary-school Principal (take early) 2
Ed. 372. Statistical Methods in Education (take early) 2

II. *Cognates* .... 6-8 Hr.

Ed. 259. The Music Education Program 2
Ed. 284. Pupil-Personnel Administration, *OR* Ed. 348, Human Development and Behavior, *OR* Ed. 373, Basic Course in Principles and Practices of Guidance 2-3
Ed. 322. Organizing Programs of Audio-visual Instruction 2
Ed. 357. Organization of Programs in Vocational Education 2
Ed. 360. Problem in Education, *OR* Ed. 361, Thesis in Education 3-6
Phys. Ed. 278. Administration of Physical Education, *OR* Phys. Ed. 378, Problems in Physical Education, Health, and Recreation, *OR* Phys. Ed. 390, The Role of the School Administrator in Conducting Programs in Health, Physical Education, and Recreation 3
Social Work 221. The Field of Social Work, *OR* Soc. Wk. 260, Problems of Child Welfare, *OR* Soc. Wk. 285, Introduction to Public Welfare 3

III. *Academic* ....10-14 Hr.

Academic courses in two or more recognized secondary-school teaching fields. These courses are to be chosen with the adviser's approval and are to be of a nature which will better qualify the principal to supervise the classroom instruction offered in modern secondary schools.

IV. *Free Electives* .... 0-6 Hr.

TOTAL FOR MASTER'S DEGREE ....30-36 Hr.

NOTE: Those already holding a Master's Degree, who desire to qualify for a West Virginia high-school principal's certificate, will be required to have the fourteen hours listed in Section I and six hours from Section II to be recommended for a certificate.

NOTE: Any administrative certificate issued by the State Department of Education is called a Professional Administrative Certificate.

CURRICULUM FOR ELEMENTARY-SCHOOL PRINCIPALS[2]

Degree: Master of Arts

I. *Required Courses in Education* .... 18 Hrs.

Ed. 301. Introduction to Educational Research (take early) 2
Ed. 306. Social Studies in the Elementary School, *OR* Ed. 307, Science in the Elementary School 2
Ed. 308. The Teaching of Arithmetic 2
Ed. 309. The Teaching of Reading 2
Ed. 326. Practice in the Supervision of Elementary-school Instruction (take late) 2
Ed. 335. The Elementary-school Curriculum (take early) 2
Ed. 339. Public-school Organization and Administration (take early) 2
Ed. 346. Principles of Supervision (take early) 2
Ed. 356. The Elementary-school Principal (take late) 2

II. *Approved Electives in Education (See options A, B, or C)*

Ed. 221. Audio-visual Resources for Instruction 2
Ed. 231. Philosophy of Education 2
Ed. 233. Educational Sociology 2
Ed. 284. Pupil-Personnel Administration 2
Ed. 302. Primary-Kindergarten Education 2

[2]Completion of this curriculum fulfills the Education requirements for the elementary-school principal's certificate. Other requirements are: (1) possession of a Professional Certificate, Grades 1-9; (2) three years of teaching experience, grades 1-8; and (3) a health certificate. All electives, whether Education or Academic, must have the adviser's approval. An approved list will be provided by the adviser upon request.

Ed. 304. Corrective Techniques in Reading Instruction 2
Ed. 305. Problems in Reading Instruction 2
Ed. 312. Evaluation of Pupil Progress 2
Ed. 313. Elementary-school Guidance 2
Ed. 314. Problems in Elementary Education 2
Ed. 315. Current Practice in Elementary Education 2
Ed. 348. Human Development and Behavior 2
Ed. 366. Teaching the Language Arts 2

III. *Options* .....12-18 Hr.

Option A: Thesis, 6 hr.; Electives, 6 hr. 12
OR
Option B: Problem, 3 hr.; Electives, 9 hr.* 12
OR
Option C: Academic, 10 hr. minimum; Electives, 8 hr.* 18

TOTAL FOR MASTER'S DEGREE .....30-36 Hr.

*Four hours of these electives shall be selected from Group II.

CURRICULUM FOR GENERAL SUPERVISORS[3]

Degree: Master of Arts

Area I. General Requirements ..... 9 Hr.

Ed. 301. Introduction to Educational Research 2
Ed. 339. Public-school Organization and Administration 2
Ed. 346. Principles of Supervision 2
Ed. 348. Human Development and Behavior 3

Area II. Field Experiences ..... 8 Hr.

Ed. 380. Practice in Supervision 2
Ed. 381. Practice in Supervision 2
Ed. 382. Practice in Supervision 2
Ed. 383. Practice in Supervision 2

Area III. Requirements in Problems of Teaching .....8 hr.

Ed. 306. Social Studies in the Elementary School, 2 hr., *OR* Ed. 367, Teaching the Social Studies in Secondary Schools, 2 hr 2
Ed. 307. Science in the Elementary School 2
Ed. 308. The Teaching of Arithmetic 2
Ed. 366. Teaching the Language Arts 2

Area IV. Recommended Electives (Non-Education) .....10-11 Hr.

Art 220
English 220 (communications), 221, 228, 242, 243
Psychology 211, 244
Speech 233, 250, 251, 275
Physical Education 203
Political Science 200, 231

TOTAL FOR MASTER'S DEGREE .....30-36 Hr.

CURRICULUM FOR SPECIAL SUPERVISORS[4]

Degree: Master of Arts

I and II: Same as for General Supervisors ..... 17 Hr.

III. Requirements in special and related fields ..... 19 Hr.

TOTAL FOR MASTER'S DEGREE .....30-36 Hr.

[3]**Program required for certification of general supervisors in West Virginia.** This curriculum can be pursued only after arrangement with Director A. N. Hofstetter.

[4]**Program required for certification of special supervisors in West Virginia.** Courses in special and related fields are selected to meet the needs of the supervisor in training and must be approved by the Director (A. N. Hofstetter.)

CURRICULUM FOR GENERAL SUPERVISORS[5]

Degree: Master of Arts

Area I. General Requirements ..... 9 Hr.

Ed. 301. Introduction to Educational Research 2
Ed. 339. Public-school Organization and Administration 2
Ed. 346. Principles of Supervision 2
Ed. 348. Human Development and Behavior 3

Area II. Requirements in Problems of Teaching .....8 Hr.

Ed. 306. Social Studies in the Elementary School (2 hr.), *OR* Ed. 367, Teaching the Social Studies in Secondary Schools (2 hr.) 2
Ed. 307. Science in the Elementary School 2
Ed. 308. The Teaching of Arithmetic 2
Ed. 366. Teaching the Language Arts 2

Area III. Approved Electives in Education ..... 8 Hr.

Area IV. Recommended Electives (Non-Education) .....10-11 Hr.

Art 222
English 220 (Communication), 228, 242, 243
Psychology 205, 218, 222, 224
Sociology 211, 244
Speech 233, 250, 251, 275
Physical Education 209, 378
Health Education 203
Political Science 200, 231

TOTAL FOR MASTER'S DEGREE .....30-36 Hr.

CURRICULUM FOR SUPERVISORS[6]

Degree: Master of Arts

I. Same as for General Supervisors ..... 9 Hr.

II. Approved Electives in Education ..... 3-8 Hr.

III. Requirements in Special and Related Fields .....19-24 Hr.

TOTAL FOR MASTER'S DEGREE .....30-36 Hr.

CURRICULUM FOR COUNSELORS[7]

Degree: Master of Arts

I. Required Courses ..... 18 Hr.

Ed. 301. Introduction to Educational Research 2
Ed. 373.* Basic Course in Principles and Practices of Guidance 3
Ed. 374.* Occupational Information Techniques 2
Ed. 375.* Individual Inventory Techniques 2
Ed. 376.* Counseling Techniques 2
Ed. 377.* Special Counseling Problems 3

[5]**This program does not qualify for a certificate in West Virginia.** This curriculum can be pursued only after arrangement with the Director (A. N. Hofstetter).

[6]**This Program does not qualify for a certificate in West Virginia.** Courses in special and related fields are selected to meet the needs of the student and must be approved by the Director (A. N. Hofstetter).

[7]Completion of this curriculum also fufills the scholastic requirements in West Virginia for a Counselor's Certificate. Other requirements are: (1) a Professional Certificate at the level at which the guidance is to be done; (2) 2 years of successful teaching experience at the level at which the guidance is to be done; and (3) cumulative wage-earning experience to a total of no less than 1,400 clock hours of regular paid employment, as certified by the employer or employers, in agriculture, commerce, and industry, or 16 weeks in a cooperative work-experience counselor-training program.

Ed. 378* Advanced Studies of Human Adjustment *OR* Ed. 212, High-school Tests and Measures 2
Ed. 379.* Organization and Administration of Guidance Services 2

II. Approved Electives ..... 6-12 Hr.

Psychology 205, 218, 222, 233, 236, 238, 310, 311, 324, 350, 351
Social Work 212, 221, 260, 301, 315
Education 212, 308, 309, 346, 360, 361, 372
Sociology 210, 211, 233, 244

III. Free Electives ..... 0-6 Hr.

TOTAL FOR MASTER'S DEGREE .....30-36 Hr.

*Completion of 12 semester hours alone as indicated by starred courses will contribute to endorsement as a teacher-counselor. Other requirements for certification as a teacher-counselor are possession of a Professional Certificate and 2 years' teaching experience at the level at which guidance is to be done.

If a Master's Degree has been earned in some other field, certification as a counselor may be procured by having 25 semester hours' credit, 15 in the required list and 10 from the electives.

CURRICULUM FOR SECONDARY-SCHOOL CLASSROOM TEACHERS[8]

Degree: Master of Arts

I. Graduate Courses in Education .....12-20 Hr.

A. Required Courses in Education .....5 Hr.
Ed. 336. The Secondary-school Curriculum (take early) 2
Ed. 373. Basic Course in Principles and Practices of Guidance 3

B. Cognates in Education .....5 Hr. (min.)
Ed. 221. Audio-visual Resources for Instruction 2
Ed. 284. Pupil-personnel Administration 2
Ed. 285. The Junior High School 2
Ed. 339. Public-school Organization and Administration 2
Ed. 348. Human Development and Behavior 3

C. Other Phases of Education .....2 Hr. (min.)
Ed. 203. Organization and Administration of Adult Education 2
Ed. 224. Advanced Student Teaching 2
Ed. 258. Education for Special Groups 2
Ed. 259. The Music Education Program 2
Ed. 262. Vocational Home Economics in Secondary Schools 2
Ed. 270. Special Problems or Workshop 1-4
Ed. 275. Developing the Core Curriculum 2
Ed. 291. Exploratory Reading 2
Ed. 301. Introduction to Educational Research 2
Ed. 309. The Teaching of Reading 2
Ed. 318. Planning Programs and Courses for Vocational Agriculture Departments 2
Ed. 357. Organization and Administration of Vocational Education 2
Ed. 360. Problem in Education 3
Ed. 361. Thesis in Education 6
Ed. 364. Advanced Methods in Teaching Industrial Arts 2
Ed. 366. Teaching the Language Arts 2
Ed. 367. Teaching the Social Studies in Secondary Schools 2
Ed. 372. Statistical Methods in Education 2
Ed. 375. Individual Inventory Techniques 2

D. Approved Electives .....0-8 Hr.
Ed. 222, 231, 233, 251, 266, 276, 283, 322, 346, 376, 385, 395-398.

[8]**This curriculum does not qualify for a certificate.** All courses to be selected by the candidate subject to the approval of his adviser so as to fulfill the above requirements.

II. Graduate courses in one of the candidate's certified teaching fields .....10-18 Hr.

III. Graduate courses in another of the candidate's certified teaching fields .....6 Hr. (min.)

IV. Free electives .....0-6 Hr.

TOTAL FOR MASTER'S DEGREE .....30-36 Hr.

CURRICULUM FOR ELEMENTARY-SCHOOL CLASSROOM TEACHERS[9]

Degree: Master of Arts

I. Required Courses in Education .....12 Hr.

Ed. 306. Social Studies in the Elementary School 2
Ed. 307. Science in the Elementary School 2
Ed. 308. The Teaching of Arithmetic 2
Ed. 309. The Teaching of Reading (take early) 2
Ed. 312. Evaluation of Pupil Progress (take late) 2
Ed. 335. The Elementary-school Curriculum (take early) 2

II. Approved Electives in Elementary Education .....8 Hr.

Ed. 221. Audio-visual Resources for Education 2
Ed. 226. Advanced Student Teaching (Elementary) 3
Ed. 301. Introduction to Educational Research 2
Ed. 302. Primary-Kindergarten Education 2
Ed. 304. Corrective Techniques in Reading Instruction 2
Ed. 305. Problems in Reading Instruction 2
Ed. 313. Elementary-school Guidance 2
Ed. 314. Problems in Elementary Education (take early) 2
Ed. 315. Current Practices in Elementary Education 2
Ed. 348. Human Development and Behavior 2
Ed. 366. Teaching the Language Arts 2

III. Options .....10-16 Hr.

Option A: Thesis, 6 hr.; Electives, 4 hr. 10
OR
Option B: Problem, 3 hr.; Electives, 7 hr. 10
OR
Option C: Academic, 10 hr. (min.); Electives, 6 hr. 16

TOTAL FOR MASTER'S DEGREE .....30-36 Hr.

CURRICULUM FOR INDUSTRIAL ARTS TEACHERS[10]

Degree: Master of Arts

I. Required Courses .....10 Hr.

Ed. 222. Current Practices in Secondary Education 2
Ed. 336. The Secondary-school Curriculum 2
Ed. 222. Current Practices in Secondary Education 2
Ed. 339. Public-school Organization and Administration 2
Ed. 346. Principles of Supervision 2
Ed. 357. Organization of Programs in Vocational Education 2
Ed. 364. Advanced Methods in Teaching Industrial Arts 2
Ed. 365. Curriculum Construction in Industrial Arts 3
Ed. 373. Basic Course in Principles and Practices of Guidance 3

II. Electives from this group .....10 Hr.

Ed. 203. Adult Education 2
Ed. 221. Audio-visual Resources for Instruction 2

[9]**This curriculum does not qualify for a certificate.** All electives, whether Education or academic, must have the adviser's approval. An approved list will be provided by the adviser **upon request.**

[10]**This curriculum does not qualify for a certificate.** All electives, whether Education or academic, must have the adviser's approval. An approved list will be provided by the adviser **upon request.**

Ed. 224. Advanced Student Teaching (Secondary) 2
Ed. 233. Educational Sociology 2
Ed. 251. Production of Audio-visual Resources 2
Ed. 258. Education for Special Groups 2
Ed. 284. Pupil-personnel Administration 2
Ed. 285. The Junior High School 2
Ed. 301. Introduction to Educational Research 2
Ed. 319. Special Problems in Teaching General Shop 2
Ed. 320-321. Special Topics in Industrial Arts 2-3
Ed. 322. Organizing Programs of Audio-visual Education 2
Ed. 326. Practice in the Supervision of Elementary-school Instruction ..2
Ed. 327. Demonstration and Practice in Supervision of Secondary-school Instruction 2
Ed. 341. School Buildings and Equipment 2
Ed. 344. Staff-personnel Administration 2
Ed. 348. Human Development and Behavior 3
Ed. 360. Problem in Education 3
Ed. 372. Statistical Methods in Education 2
Ed. 376. Occupational Information Techniques 2
Ed. 385. History of Education in the United States 2
Ed. 395-8. Practicum 3
Home Ec. 266. Needs of Adolescents 3
Rec. 204. Recreation Hobbies 3

III. Electives, Practical or Skilled ....10 Hr.

Ag. Mech. 252. Adv. Farm Mechanics 2
Ag. Mech. 259. Functional Requirements of Farm Buildings 3
Ag. Mech. 270. Electricity in Agriculture 3
Ed. 204. Adv. Woodworking 3
Ed. 206. Industrial Experience 2-6
Ed. 208. Wood Finishing 2
Ed. 238. Industrial Arts Design 2
Ed. 240-250. Advanced Crafts 2-10
Ed. 270. Special Problems and Workshop (Ind. Arts) 1-4
Ed. 272. Internship in Industrial Arts Therapy 8
Ed. 320-321. Special Topics in Industrial Arts 2-3

IV. Free Electives ....0-6 Hr.

TOTAL FOR MASTER'S DEGREE ....30-36 Hr.

CURRICULUM FOR SECONDARY-SCHOOL CLASSROOM TEACHERS OF MATHEMATICS AND SCIENCE[11]

Degree: Master of Arts

I. Graduate Courses in Education ....12 Hr. (min.)

A. Required Courses in Education ....5 Hr.
Ed. 336. The Secondary-school Curriculum (take early) 2
Ed. 373. Basic Course in Principles and Practices of Guidance (take early) 3

B. Cognates in Education ....5 Hr. (min.)
Ed. 221. Audio-visual Resources for Instruction 2
Ed. 284. Pupil-personnel Administration 2
Ed. 285. The Junior High School 2
Ed. 339. Public-school Organization and Administration 2
Ed. 348. Human Development and Behavior 3

C. Other Phases of Education ....2 Hr. (min.)
Ed. 222. Current Practices in Secondary Education 2
Ed. 224. Advanced Student Teaching 2

[11]This curriculum does not qualify for a certificate. All courses to be selected by the candidate subject to the approval of his adviser and the department head so as to fulfill the above requirements.

Ed. 301. Introduction to Educational Research 2
Ed. 360. Problem in Education 3
Ed. 361. Thesis in Education 6
Ed. 372. Statistical Methods in Education 2
Ed. 375. Individual Inventory Techniques 2

II. Graduate Courses in one of the candidate's certified teaching fields, selected from those listed in A, B, or C below[12] .....10-18 Hr.

III. Graduate Courses in another of the candidates certified teaching fields .....6 Hr. (min.)

A. Mathematics

1. Recommended courses
Math. 238. Geometry for Teachers 3
Math. 247. Theory of Numbers 3
Math. 248. History of Mathematics 3
Math. 261. Special Topics 3

2. Other Courses in Mathematics
Math. 216. Astronomy 3
Math. 235. Foundations of Algebra and Analysis 3
Math. 234. Theory of Equations 3
Math. 246. Introduction to Algebraic Theories 3

B. Biological Science

1. Recommended courses
Biol. 204. Biology Workshop 3
and one of the following combinations
*Botany 224. Plant Communities 3
and
*Zoology 222. Field Studies of Invertebrates 3
OR
Biol. 205. Principles of Evolution 3
and
Zoology 223. Field Studies of Vertebrates 3
OR
Biol. 205. Principles of Evolution 3
and
Zoology 275. Machinery of the Human Body 4

2. Other courses in Biological Science
Bacteriology 241. Fundamental Bacteriology 4
Botany 204. Adv. Botany 4
Botany 227. Geographic Botany 3
Botany 266. Flora of West Virginia 3
Biology 207. History of Biology 3
Biology 212. Biological Preparations 3
Zoology 231. Comparative Anatomy 5

C. Physical Science

1. Recommended courses
Chem. 211. Intermediate Inorganic Lecture 2
Chem. 212. Intermediate Inorganic Laboratory 2
Chem. 275. Workshop in Chemistry, Inorganic 2
Chem. 276. Modern Theories and Practices in Organic Chemistry 2
Physics 213. Introductory Electronics 3
Physics 254. Outline of Modern Physics 3
Physics 255. Workshop for Physics Teachers 3
Physics 256. Workshop for Physics Teachers 3
Physics 257. Photography 3

*Combinations offered at Camp Wood, located at Alvon, Greenbrier County. The Department of Biology strongly recommends these courses in field work as highly desirable for high-school teachers of biology.

[12]The student, with the consent of his adviser and the department head, may take other 200 or 300 series courses for which he is qualified.

2. Other Courses in Physical Science

Chem. 233. Organic Chemistry	4 or 5
Chem. 238. Organic Chemistry	4 or 5
Chem. 260. Physical Chemistry	4 or 5
Chem. 261. Physical Chemistry	4 or 5
Geol. 202. Physical Geology Laboratory for Teachers	1
Geol. 270. Mineral Resources	3

CURRICULUM FOR HOME-ECONOMICS EDUCATION

Degree: Master of Science

I. Required graduate courses in Education	10-20 Hr.
II. Required graduate courses in Home Economics	10-20 Hr.
III. Required graduate courses in tributary fields	0-10 Hr.
TOTAL FOR MASTER'S DEGREE	30-36 Hr.

CERTIFICATE OF ADVANCED STUDY IN EDUCATION

The purpose of this distinct and terminal sixth-year program is to meet the needs of school and other closely-allied personnel who have specific professional problems which they wish to pursue beyond the Master's level. Such persons should consult the Dean of the College of Education.

PREREQUISITES TO ADMISSION TO THE PROGRAM

1. Fulfillment of general requirements for admission to the Graduate School of West Virginia University.
2. A Master's Degree in Education with a grade-point average of more than 3.0.
3. A minimum of three years of teaching or closely-related educational experience.
4. The applicant must be engaged in, or on official leave from, school or closely-allied educational employment.

REQUIREMENTS FOR ADMISSION TO CANDIDACY

1. Evidence through personal letter, personal interview, and examination of acceptable standards of written and oral communication, general proficiency, and good health.
2. Satisfactory completion in residence at West Virginia University of at least six semester hours of approved course work beyond the conferring of the Master's degree.

GRADUATE COMMITTEE

Upon admission to candidacy, the matriculant will be assigned a Graduate Committee of three, of which one may be from outside the faculty of the College of Education, and the chairman of which shall serve as Graduate Adviser. The Committee must approve and will have general oversight of the candidate's program, directs his research, administer his final examinations, and, when he has satisfied all requirements, recommend him to the Dean of the Graduate School for the certificate.

REQUIREMENTS FOR COMPLETION

The Program: A minimum of 30 approved semester hours in residence earned after the conferring of the Master's degree, consisting of (a) 18-24 semester hours of course work in Education and intimately related areas, of which a maximum of six semester hours earned in residence at another recognized graduate institution, may, if of suitable character, be allowed; and (b) 6-12 semester hours of research.

Special Requirements: Competence in techniques of statistical research; evidence of a functioning command of appropriate methods of investigation; and mastery of acceptable practices of manuscript preparation.

Research: The candidate must submit a report of a research project, approved by and pursued under the direction of his advisory committee, on a problem in the area of his major professional interest. The report shall show familiarity with previous knowledge of the general problem and with concurrent attacks upon it; embody a clear definition of the particular approach of the present investigation; employ valid methods of research; demonstrate the ability to create and evaluate new knowledge; present and interpret unequivocally the results of the candidate's individual investigation; and disclose his ability to apply his contribution to the solution of his professional problem.

Residence: Both the course and research requirements are to be satisfied through residence credit. Although portions of the research project may be prosecuted in the field, they will be closely supervised through periodic field and campus conferences between the candidate and his committee.

Final Examination(s): If the candidate's research report is accepted and he has satisfied all other requirements, he will be admitted to final oral examination by his graduate committee which may also require a written examination. The examination(s) will probe the candidate's grasp of his field of specialization and cognate fields, and his ability to focus the results of his research upon the solution of his professional problem.

Time Limitation: All requirements shall, without exception, be completed within the seven calendar years immediately preceding the awarding of the Certificate.

THE DEGREE OF DOCTOR OF EDUCATION

Admission to the Graduate School and enrollment in graduate courses do not of themselves imply acceptance of the applicant for the Doctor of Education Degree. The sequence of prerequisites to admission, prerequisites to candidacy, and requirements for the degree are as follows:

Prerequisites to Admission

Applicants expressing a desire to pursue a program leading to the Doctor of Education Degree are required to satisfy a College of Education faculty Committee on Prerequisites in the following ways:

A. Furnish evidence of three or more years of successful teaching and/or closely related experience.

B. A master's degree with a grade-point average of more than 3.0.

C. Demonstrate the ability to read comprehendingly and to use creditable oral and written English.

D. Demonstrate the ability to use the basic statistical processes.

E. Furnish evidence of wide reading in general and professional fields.

F. Show by means of oral and written tests a preparedness to undertake an organized program of advanced graduate study and research.

G. In addition to the foregoing, the Committee on Prerequisites may require a trial period of resident study.

Doctoral Committee

When an applicant has received the permission of the Graduate School to enter upon an organized program of advanced graduate study and research, he will be assigned an adviser by the Dean of the Graduate School. The Dean of the Graduate School and the adviser will jointly select a doctoral committee consisting of not fewer than five members, of whom at least one shall be from a field other than Education.

The adviser shall serve as chairman of the doctoral committee and this committee shall have charge and direction of the applicant's program. This program, prepared by the adviser and the applicant, must be approved by the doctoral committee and by the Dean of the Graduate School before the applicant is eligible to stand for the qualifying examination.

Qualifying Examinations

At a time to be determined by the doctoral committee after the applicant has spent at least one semester, or three summer terms of six weeks each, in full-time

graduate work in on-campus residence beyond the Master's Degree or its equivalent, he will be admitted to written and oral comprehensive preliminary or qualifying examinations, conducted by the doctoral committee, in the areas of general professional background, specialization, and cognates.

The applicant must (a) evidence a grasp of the important phases and problems of the field of study in which he proposes to major and their application to other fields of human knowledge and accomplishment; (b) demonstrate the ability to employ rationally the appropriate instruments of research; and (c) present a written tentative outline of a proposed research project.

The written qualifying examination precedes the oral that should follow, within a reasonable time, the successful completion of the written. If the committee is not satisfied with the applicant's showing, it will make specific recommendations for additional work in preparation for a second trial that may be undertaken not earlier than six months nor later than twelve months after the first trial. The outcome of the second attempt will be considered final.

When the applicant has passed the qualifying examinations he will formally be promoted to candidacy for the Doctor of Education Degree. Admission to candidacy must precede the final examination by at least one academic year in time and 12 semester hours in credit. A minimum of 30 semester hours of graduate work pursued in fulfillment of the requirements for the Master's Degree, if of suitable character and quality, may be credited towards the doctorate.

NOTE: It is the responsibility of all applicants for admission to the Graduate School and all candidates for graduate degrees, certificates, and other such recognitions to conform to the General Regulations of the Graduate School, as published in the latest **Announcements of the Graduate School.**

Requirements for Completion

Curriculum: The degree of Doctor of Education is not achieved by the mere accumulation of course credits nor the completion of a definite residence requirement. The exact amount and nature of course work to be undertaken by a candidate will be determined in the light of his previous preparation and the demands of his chosen field of application. The aggregate of courses of graduate study shall, however, be not fewer than 70 semester hours, exclusive of dissertation. Not more than 12 of the 70 hours may be earned in extension and/or practicum or field work. The program of course work shall include a minimum of 42 semester hours in Education, at least 30 of which shall be on the "300" level, and a minimum of 24 semester hours in cognate courses, of which at least 12 shall be on the "300" level. These courses shall be so ordered and distributed as to promote broad and systematic knowledge and the ability to prosecute independent research.

Candidates having an earlier graduate degree or its equivalent from West Virginia University will be required to complete a prescribed minimum of resident graduate work in one or more other institutions.

Residence: In general, requirements for the Doctor of Education Degree contemplate three years of full-time graduate work beyond the Bachelor's Degree, including a minimum of two semesters in residence in full-time graduate study in West Virginia University beyond the Master's Degree or its equivalent.

Special Requirements: Competence in the advanced techniques of statistical research; evidence of a functioning command of appropriate methods of educational investigations; and mastery of the rules of manuscript preparation.

Dissertation: The candidate must submit a dissertation pursued under the direction of his doctoral committee on a problem in the field of his major interest. The dissertation must show familiarity with previous knowledge of the general problem; embody a clear definition of the particular problem pursued; employ valid methods of attack; demonstrate the ability to create and evaluate new knowledge; present and interpret unequivocally the results of the candidate's individual investigation; and disclose his ability to apply his contribution to the solution of educational problems.

Final Examination: If the candidate's dissertation is approved and he has fulfilled all other requirements, he will be admitted to final oral examination before his doctoral committee. At the option of his committee a written examination also may be required. The final examination or examinations shall be concerned with the disserta-

tion, its contribution to knowledge, and the candidate's grasp of his field of specialization, and its relation to other fields. No candidate may proceed to his final examination until he has fulfilled residence requirements for the degree and until he has completed at least 12 semester hours of graduate study subsequent to his admission to candidacy.

Time Limitation: Requirements for the Doctor of Education Degree must be completed within seven years of admission to candidacy.

COURSES OF INSTRUCTION*

No courses in Education except Ed. 102, 103, 104, 105, 106, 107, and 108 are open to sophomores. The following courses are required of teachers for recommendation for a Professional Certificate, Grades 7-12: Ed. 105, 106, 114, 120, 124, 150-170, and enough additional hours chosen from the following approved electives to meet the minimum requirement of 20 hours in Education: 109, 136, 150-170 in a second teaching field, 203, 212, 222, 231, 233, 259, 262 or 266, 276 or 277, 284, 285, and 291. The following courses are required of teachers for recommendation for a Professional Certificate, Grades 1-9: Ed. 105, 106, 141, 142, 143, 144, 145, and 146.

Undergraduate Division

102. Hand Woodworking (I.A.). I. 3 hr. Basic course for industrial arts teachers. Emphasis on design and construction of small projects; development of hand tool skills; a study of tools, materials, and processes; basic finishing information. Open to lower-division students. Mr. Brennan

103. Machine Woodworking (I.A.). II. 3 hr. PR: Ed. 102. Use of common pieces of power woodworking equipment and safety factors involved in their use in school shops. Open to lower-division students. Mr. Brennan

104. Basic Metalwork (I.A.). I. 2 hr. Practical work in layout and construction in bench work and wrought iron. Open to lower-division students. Mr. Brennan

*105. Educational Psychology—Human Growth and Development. I, II, S. 3 hr. Open to sophomores or above. Emphasis upon competencies on the part of prospective teachers in understanding and applying principles involved in the growth and development of children and youth. Mr. Neff and Mr. Taylor

106. Educational Psychology—the School Program and Pupil Development. I, II, S. 3 hr. PR: Ed. 105. Continuation of Ed. 105 with special attention to the nature of the school program as it affects the growth and development of pupils. Open to sophomores or above. Mr. Peluso and Mr. Taylor

107. General Shop (I.A.). I. 3 hr. Basic course in practices and techniques involved in the areas of printing, crafts, wood and metal work, forging, and foundry. Emphasis on the organization of a general shop. Mr. Ault

108. Advanced General Shop (I.A.). II. 3 hr. Emphasis on planning, development of projects, and individualized instruction. Additional areas will include drawing, electricity, and ceramics. Mr. Ault

109. Secondary Education. I, II, S. 3 hr. Introduction to the problems of the secondary-school teacher. Mr. Cook

110. Maintenance and Construction of Industrial Arts Equipment (I.A.). I, II, S. 2 hr. PR: Ed. 102, 104, and consent of instructor. Solution of problems arising from use of equipment found in school shops, development and construction of functional shop equipment. Mr. Ault and Mr. Brennan

114. Educational Psychology—Adolescent Adjustment. I, II, S. 3 hr. PR: Ed. 105, 106. Types of learning activities featured in the program of the secondary school and the forms of personal and social adjustment effected, with special consideration given to methods and techniques applicable to the evaluation of pupil progress. To be taken during or after student teaching. Mr. Taylor

*Ed. 105 is prerequisite to all other courses in Education.

115. Student Teaching in Elementary-School Music. I, II. 2 hr. Observation and practice of teaching music to pupils in grades one through six. Open to seniors who have completed 27 semester hours in Music and 8 semester hours in Education with a grade-point average of 2.0 ("C") in each and a general grade-point average of 2.0 ("C"). Mr. Brown and Mrs. Glasscock

120. Principles of Teaching in Secondary Schools. I, II, S. 2 hr. PR: Open only to those who qualify for the student teaching block. Mr. Miller

124. Student Teaching. I, II, S. 4 hr. PR: Ed. 105, 106, and one elective in Education. (Ed. 114 is not an elective.) This course is open only to seniors and graduate students, regularly enrolled in the University, who meet the following requirements:

1. Completion of 75 per cent of the hours required in each of two teaching fields and completion of Ed. 105, 106, and one approved elective course in Education, with a minimum general grade-point average of 2.0 ("C") and a minimum grade-point average of 2.0 ("C") in each teaching field and in Education.

2. An applicant for student teaching must submit positive evidence that he (or she) meets the requirements of physical condition and emotional stability necessary for the performance of the duties of a teacher in the public schools. Such evidence must come from the University Health Service on a form used by the College of Education.

3. This course must be taken concurrently with Ed. 120 and the appropriate course of Ed. 150-170 unless exceptions have previously been made with the Director of Secondary Student Teaching. A period of 3 hours daily must be reserved for this and simultaneous courses for purposes of observation, discussion, and planning.

4. All students must reserve Monday, 7 to 9 P.M., biweekly, in each calendar month for teachers' meeting.

5. Because two-thirds of the program of the University High-School is in the forenoon, two-thirds of the applicants must schedule this course in the morning, reserving three hours daily without interruption. Admission is by application made early in the preceding semester to the Director of Secondary Student Teaching.

6. The adviser is responsible for furnishing a check of the student's record to determine eligibility.

7. Students with no teaching experience are required to take this course during the academic year. Mr. Miller and U.H.S. Staff

125. Supplementary Student Teaching. I, II, S. 2 hr. PR: Permission of the director of student teaching. Must accompany Ed. 124 and can be taken only by persons who give valid reasons for earning six semester hours of student teaching. A period of four consecutive hours daily (8-12 or 10-3) must be reserved for Education 124 and 125 when taken simultaneously. Ed. 125 cannot count as a part of the 20 semester hours of Education required for West Virginia certification. Mr. Miller and U.H.S. Staff

127. Materials and Methods in Public-school Speech and Hearing Therapy. I, II, S. 4 hr. PR: Permission of the director of the public-school speech and hearing therapy program. Materials and methods in Grades 1 to 12. Staff

128. Student Teaching in Public-school Speech and Hearing Therapy. I, II, S. 4 hr. PR: Permission of the director of the public-school speech and hearing therapy program. Includes experiences in Grades 1 to 12. Staff

130. Materials and Methods in Elementary-school Music. I, II. 2 hr. (To be carried concurrently with Ed. 115.) Mrs. Glasscock

136. High-school Program of Studies. I, II. 3 hr. Principles governing the selection of educative content for secondary schools, with emphasis on possibilities within various areas. Staff

141. Psychology and Management of the Elementary School. I, II, S. 3 hr. PR: Ed. 105, 106, and enrollment in the elementary undergraduate program of the

College of Education. Types of learning activities of the elementary school, forms of personal and social adjustment, evaluation of progress of pupils, organization of the daily program, and the management of classroom activities. Mr. Kennedy and Staff

142. Language Arts in the Elementary School. I, II, S. 3 hr. PR: Ed. 105, 106, and enrollment in the elementary undergraduate program of the College of Education. Modern practices in teaching the language arts. Emphasis on methods and materials in teaching reading, handwriting, and spelling in their relation to the total school program. Mr. Kennedy and Mrs. Cunningham

143. Arithmetic in the Elementary School. I, II, S. 2 hr. PR: Ed. 105, 106, and enrollment in the elementary undergraduate program of the College of Education. The methods and materials of learning and instruction in arithmetic. Mr. Kennedy and Mr. Morrone

144. Social Studies in the Elementary School. I, II, S. 2 hr. PR: 105, 106, and enrollment in the elementary undergraduate program of the College of Education. A study of modern practices in the teaching of social studies. Emphasis on the principles and techniques underlying the community-oriented social studies program. Instructional units in such areas as the community, social processes, foreign culture and geography, and history are developed. Mrs. Cunningham

145. Science in the Elementary School. I, II, S. 2 hr. PR: Ed. 105, 106, and enrollment in the elementary undergraduate program of the College of Education. A study of modern practices in the teaching of science. Emphasis on the principles and techniques underlying the community-oriented science program. Students are guided in developing instructional units in such areas as the earth and the universe, conservation, health, living things, and physical and chemical phenomena. Mrs. Cunningham

146. Student Teaching in the Elementary School. I, II, S. 6 hr. PR: Ed. 142, 143, 144, and enrollment in the elementary undergraduate program of the College of Education; a minimum general grade-point average of "C" (1) in the non-Education courses, and (2) in Education courses; and senior standing. Students enrolling for this course must plan a schedule so that one-half of the day (9:00-12:00 or 12:00-3:00) is free. An applicant for student teaching must submit positive evidence that he or she meets the requirements of physical condition and emotional stability necessary for the performance of the duties of a teacher in the public schools. Such evidence shall be provided by the University Health Service on a form use by the College of Education Mr. Kennedy and Staff

147. Student Teaching in the Elementary School. I, II, S. 3 hr. PR: Enrollment in the elementary undergraduate program of the College of Education and consent of the instructor. A special course for transfer students who have completed three or more hours of student teaching in other institutions or for those who are up-grading certificates. Mr. Kennedy and Staff

148. Student Teaching in the Elementary School. I, II, S. 3 hr. PR: Permission of the Director of Elementary Student Teaching. A continuation of Education 147 for students who need more than three hours in directed teaching for graduation, recommendation, and certification. Mr. Kennedy and Staff

150-170. Materials and Methods of High-school Teaching. I, II, S. 2 hr. PR: Consent of Instr. Special methods in the various secondary-school teaching fields. For West Virginia certification these courses are an integral part of Education 124. May also be chosen as a two-hour elective by students who are registered for student teaching in other fields. Staff

The various sections of this course, with their instructors, follow:

150. Biology. 2 hr. Miss Cook

152. Physical Education. 2 hr. Mr. Fizer and Mrs. Hayhurst

153. French. 2 hr. Miss Brochick

154. Speech. 2 hr. Staff

155. Library Science. 2 hr. Staff

156. Spanish, 2 hr. Staff

157. Latin. 2 hr. Staff

160. Agriculture. 3 hr. Mr. Butler, Mr. Kelly, and Mr. Bryant

161. English. 2 hr. Miss Engle and Miss Woofter

163. Home Economics. 2 hr. Miss Cook and Mrs. Roberts

164. Industrial Arts. 2 hr. Mr. Ault

165. Mathematics. 2 hr. Miss Wilt and Mrs. Dorsey

166. Physical Science. 2 hr. Mr. Caruso

167. Social Science. 2 hr. Mrs. Semon and Mr. Harvey

168. Art. 2 hr. Mr. Madia

169. Music. 2 hr. Mr. C. Brown and Mr. Shahan

170. Commerce. 2 hr. Mr. Lee

194. Organization of Industrial Arts. II. 2 hr. Comparative analysis of the objectives of general and industrial arts education; industrial arts content; study of the problems involved in organizing and administering industrial arts content; and in organizing and administering industrial arts courses in unit and general shops. Mr. Ault and Mr. Brennan

*203. Organization and Administration of Adult Education. II. 2 hr. Mr. Allen

204. Advanced Woodworking, Construction, and Finishing (I.A.). II, S. 3 hr. PR: Ed. 102, 103, or equiv. Selection of advanced projects, analysis of construction planning and finishing, application of machine tools. Mr. Brennan

206. Industrial Experience (I.A.). I, II, S. 2-6 hr. Open only to students qualifying to teach industrial arts or become counselors. Evaluation of educative outcome of personal employment in industry as determined by duration, experience, records, study on job, and final examination. Counts as extension credit. Mr. Allen and Mr. Brennan

208. Wood Finishing (I.A.). I, S. 2 hr. PR: Ed. 103, 204. Practice and theory in the art of sanding, scraping, filling, dyeing, staining, waxing, and other natural and synthetic treatments to the surface of wooden articles constructed in the industrial arts shop. Mr. Brennan

212. High-school Tests and Measures. I, II. 3 hr. Uses and techniques of educational measures in secondary-school teaching. Staff

221. Audio-Visual Resources for Instruction. I, II, S. 2 hr. Multisensory techniques in using wide varieties of materials and resources in teaching. One laboratory period per week. Mr. Allen

222. Current Practices in Secondary Education. I, II, S. 2 hr. Mr. Cook and Mr. Peluso

224. Advanced Student Teaching (Secondary). I, II, S. 2 hr. PR: Ed. 124 or equiv., permission of the Director of Secondary Student Teaching. Emphasizes types of experiences not generally included in beginning student teaching. Mr. Miller and U.H.S. Staff

226. Advanced Student Teaching (Elementary). I, II, S. 3 hr. PR: 3 hr. of student teaching or equiv., permission of the Director of Elementary Student Teaching. Emphasizes types of experiences not generally included in beginning student teaching. Mr. Kennedy and Staff

*To receive graduate credit for courses numbered 200-299, the student must have had at least 17 hours in undergraduate Education.

231. Philosophy of Education. I, S. 2 hr. PR: 5 hr. of Ed. courses, senior standing. Evaluation of educational theories and practices in terms of the several judgments of ultimate worth set up by man in his endeavor to understand life's real meaning. Mr. Cook

233. Educational Sociology. II, S. 2 hr. PR: 5 hr. in Ed. courses, senior standing. Impacts of institutions of society upon school, and school's counter-impact upon social institutions and agencies. Staff

238. Industrial Arts Design (I.A.). I, S. 2 hr. PR: Consent of Instr. Fundamentals of design, characteristics of period and modern furniture, and construction details. Mr. Madia

240-250. These courses are designed to prepare versatile teachers of industrial arts and to meet state certification requirements. The abbreviated introduction to specific crafts through these courses is intended to provide broad rather than specialized experience and to prepare the teacher to teach the fundamentals of crafts rather than to attain vocational competence. Prospective teachers should elect, from these courses, those which will supplement their previous training in organizing and directing the industrial arts program.

240. Metal Working (I.A.). I, S. 2 hr. PR: Ed. 104. Design and construction of projects using sheet, bar, and wire. Introduction to jewelry. Mr. Madia

241. Jewelry (I.A.). II, S. 2 hr. PR: Ed. 104. Design and construction of projects in costume jewelry made from gold-filled and silver wire and sheets; installing jewels; gold and silver soldering; tool design and tool making for special operations. Mr. Madia

242. Upholstering (I.A.). S. 2 hr. PR: Ed. 103. Original and renewal installation of selected materials for springing, stuffing, and covering furniture; incidental reinforcement and repairs. Each student will need to purchase a simple kit of tools. Mr. Madia

243. Ceramics (I.A.). II, S. 2 hr. Manipulation of ceramic materials. Projects are constructed involving slab, coil, and potter's wheel operations, slip casting, and ceramic production processes. Glazing and firing of ceramic wares. Mr. Brennan

244. Leather Crafts (I.A.). I, S. 2 hr. Selection of materials; design and construction of projects in leather, tooling, carving, lacing, staining, etc. Mr. Brennan

245. Plastics (I.A.). II, S. 2 hr. Manipulation of selected plastics in block, sheet, tube, and rod. Forming to shape, fabrication, and carving. Mr. Brennan

246. Graphic Arts (I.A.). II, S. 2 hr. A study of the various media of reproduction. Attention is given to linoleum block, silk screen, letter press operations, hand composition, proof reading, platen press operations, and basic book binding. Mr. Ault and Mr. Brennan

247. Auto Mechanics (I.A.). S. 2 hr. Practice and theory in operation and maintenance of internal combustion engines. Staff

248. Electricity (I.A.). II, S. 2 hr. Basic electrical theory and practice including wiring circuits, splices, motors, generators, etc., suitable for pupils in high school. Staff

249. Sheet Metal (I.A.). S, II. 2 hr. Designing, making patterns, and construction of sheet metal objects useful about the modern home. Cutting, bending, forming, spinning, soldering, and similar operations. Mr. Ault

250. Industrial Arts for Elementary Schools (I.A.). II, S. 2 hr. Particularly designed for elementary teachers. Planning units around activity areas and developing of manipulative operations to supplement these units. Work includes simple wood and metal operations, plastics, and crafts suitable for the elementary pupil. Mr. Madia

251. Production of Audio-visual Resources. II, S. 2 hr. PR: Ed. 221. Practical participation in planning and producing audio-visual media for use in teaching, for supporting the school's public-relations program, and in educational research. Mr. Allen

258. Education for Special Groups. I, II, S. 2 hr. A study of the techniques and organization of instruction of adults and teen-age youth not in attendance at ordinary day-school classes. Mr. Allen

259. The Music Education Program. S. 2 hr. PR or parallel: Ed. 124, or consent of Instr. Organization and administration of the complete music education program for grades one through twelve. Mr. Brown

262. Vocational Home Economics in Secondary Schools. I, II. 3 hr. PR or parallel: Ed. 120, 124, 163; 25 hr. in Home Econ. Primarily for seniors and teachers of home economics. Miss Noer

266. Adult Education in Homemaking. I, II. 2 hr. Current trends and present activities in the field of adult education. Organization of adult classes, development of unit outlines; consideration of teaching methods; illustrative material, and bibliography for use in adult classes. Staff

270. Special Problems and Workshops. I, II. 1-4 hr. PR: 14 hr. in Ed. To take care of credits for special workshops and short intensive unit courses on methods, supervision, and other special topics. Maximum of 8 sem. hr. may be applied toward the Master's Degree, of which no more than 3 sem. hr. shall be in extension. Staff

272. Internship in Industrial Arts Therapy (I.A.). I, II, S. 8 hr. Designed for student internship in clinical setting to provide individualized instruction in the teaching techniques in industrial arts and the therapeutic practice in rehabilitation of the handicapped. Mr. Ault and Mr. Brennan

274. Workshop: Economic Education. 3 hr. A workshop for principals, teachers, and supervisors with emphasis on the economic structure of our society and methods of integrating economics into the school program. Sponsored jointly by the College of Education and the College of Commerce.
Mr. Peluso and the Staff of the College of Commerce

275. Developing the Core Program. S. 2 hr. PR: May be taken with or following student teaching. Mr. Cook

276. Teaching Young Adult Farmer Classes. I, S. 2 hr. PR: Ed. 105, 106. Participation in conducting young and adult farmer classes and school-community food preservation center; organization, course of study, and methods of teaching and supervision, and young farmer's association. Mr. Butler and Mr. Swecker

277. Organizing and Directing Supervised Farming Programs. II, S. 2 hr. PR: Ed. 160 or consent. Planning programs of supervised farming, supervising and evaluating such programs for all-day students, young farmers, and adult farmers. Mr. Butler

283. History of Education in West Virginia. II, S. 2 hr. A study of the growth of elementary, secondary, and higher education in the State with special emphasis given to movements and influences which brought about significant changes in organizational, financial, and instructional policies and practices. Mr. Cook

284. Pupil-Personnel Administration. I, II, S. 2 hr. PR: Ed. 105, 106. Pupil accounting, guidance, extra-curricular activities, and control. Open only to senior students and graduates. Mr. Peluso

285. The Junior High School. I, II. 2 hr. PR: Ed. 105, 106, and consent of Instr. Development, philosophy, program, and practices of the junior high school. Open only to seniors and graduates. Staff

291. Exploratory Reading. S. 2 hr. PR: Consent of Instr. For those who feel need for wider acquaintance with books. Staff

Graduate Division

301. Introduction to Educational Research. I, II, S. 2 hr. Required of all candidates for the administrative and supervisory programs and for Options A and B for the Master's Degree. Appreciation, techniques, interpretation, and reporting of research. One requirement of the course is to outline an actual research problem. Mr. Hofstetter

302. Primary-Kindergarten Education. I, II, S. PR: Consent of Instr. Application of the principles of psychology to early childhood education.
Mrs. Cunningham and Mr. Kennedy

304. Corrective Techniques in Reading Instruction. I, II, S. 2 hr. PR: Ed. 309 or consent of Instr. Methods and materials to help pupils with reading difficulties.
Mr. Kennedy

305. Problems in Reading Instruction. I, II, S. 2 hr. PR: Ed. 304, 309. Individual and group research on selected problems in the teaching of reading.
Mr. Kennedy and Mr. Morrone

306. Social Studies in the Elementary School. I, II, S. 2 hr. PR: 10 hr. undergraduate credit in elementary education, or consent of Instr. Survey course in the teaching of social studies. Mr. Morrone

307. Science in the Elementary School. II, S. 2 hr. PR: 10 hr. of undergraduate credit in elementary education. Materials and methods of science with special consideration of human health and safety. Mr. Morrone

308. The Teaching of Arithmetic. I, S. 2 hr. PR: 10 hr. of undergraduate credit in elementary education, or consent of Instr. Processes of number thinking and sequential steps of their development among pupils. Mr. Morrone

309. The Teaching of Reading. I, II, S. 2 hr. PR: 10 hr. of undergraduate credit in elementary education, or consent of Instr. Survey course in the teaching of reading. Mr. Kennedy

312. Evaluation of Pupil Progress in the Elementary School. I, II, S. 2 hr. PR: Consent of Instr. Practical techniques for evaluating pupil progress and teaching effectiveness. Staff

313. Elementary-school Guidance. I, II, S. 2 hr. PR: Consent of Instr. Practical application of the principles of guidance to the elementary school. Staff

314. Problems in Elementary Education. I, II, S. 2 hr. PR: Consent of Instr. Intensive study of specific problems in elementary education. Staff

315. Current Practices in Elementary Education. I, II, S. 2 hr. PR: Consent of Instr. Critical analysis of modern techniques and practices in the elementary school.
Staff

318. Planning Programs and Courses for Vocational Agriculture Departments. I, S. 2 hr. PR: Ed. 124. Gathering data, studying the farming problems of all-day students, young farmers, and adult farmers, and planning the total program for the department. Mr. Butler

319. Special Problems in Teaching General Shop. S. 3 hr. PR: Ed. 107 or equiv. Problems peculiar to teaching Industrial Arts in the General Shop. Mr. Ault

320, 321. Special Topics in Industrial Arts. I, II, S. 2-3 hr. ea. PR: Consent of Instr. For graduate students in industrial arts. Special projects of improvement in phases needing special attention. Mr. Ault and Mr. Brennan

322. Organizing Programs of Audio-visual Instruction. I, S. 2 hr. PR: Ed. 221. An advanced course dealing with problems of planning extensive programs for using exhibits, slides, graphics, films, radio, television, etc., for instructional purposes. Mr. Allen

326. Practice in Supervision of Elementary-school Instruction. S. 2 hr. PR: 6 graduate hr. of elementary education, or consent of Instr. Observing and practicing major activities of the supervisor in work with pupils and teachers. To be taken late in student's candidacy. Mrs. Cuningham

327. Demonstration and Practice in the Supervision of Seconary-school Instruction. II, S. 2 hr. PR: Consent of Instr. Opportunity to observe approved processes in classroom supervision, and to practice under guidance the art of improving classroom instruction. To be taken late in student's candidacy.
Mr. Miller

335. The Elementary-school Curriculum. I, II, S. 2 hr. PR: 10 hr. of undergraduate credit in elementary education, or consent of Instr. Organization of content and materials of instruction of subjects through the grades. Mr. Morrone

336. The Secondary-school Curriculum. I, II, S. 2 hr. PR: High-school teaching experience, or consent of Instr. Principles of and practice in curriculum construction for modern high schools. Mr. Cook

339. Public-school Organization and Administration. I, S. 2 hr. PR: 20 hr. of Ed. courses, and consent of Instr. An orientation course for present and prospective school administrators, with emphasis upon the problems which grow out of the county unit. Required as a basic course of all who specialize in educational administration. Mr. Baldwin

340. Public-school Finance. S. 2 hr. PR or Conc: Ed. 339, consent of Instr. Sources of school support; taxation; efficient management of school money, locally by improved budget practices and statewide by more adequate apportionment plans. To be taken late in student's candidacy. Mr. Baldwin

341. School Buildings and Equipment. I, S. 2 hr. PR or Conc: Ed. 339, consent of Instr. Philosophy, planning, and management of school plant as appropriate physical environment—the home of pupils for more efficient learning. Mr. Baldwin

343. School Surveys. 2 hr. PR or Conc: Ed. 339, consent of Instr. Development of the educational survey as an instrument for improving educational procedures. Mr. Baldwin

344. Staff-Personnel Administration. 2 hr. PR or Conc: Ed. 339, consent of Instr. Selection, induction, direction, evaluation, improvement, and promotion of members of the supervisory, instructional, research, clerical, and maintenance staffs. Mr. Baldwin

346. Principles of Supervision. I, S. 2 hr. Basic, general principles of elementary-school, junior high-school, and senior high-school supervision. Mr. Hofstetter

348. Human Development and Behavior. S. 3 hr. A study of the inter-relationship of physical and environmental factors as they affect the behavior of children and youth. Staff

353. The Secondary-school Principal. II, S. 2 hr. PR: Ed. 339 and high-school teaching experience, or consent of Instr. Open only to graduate students in Education, late in their candidacy. Practicum in secondary-school administration. Mr. Hofstetter

356. The Elementary-school Principal. S. 2 hr. PR: 6 graduate hr. of elementary education, or consent of Instr. Work of principal in management and supervision of school. To be taken late in candidacy. Staff

357. Organization and Administration of Vocational Education. S. 2 hr. PR: Ed. 339. Specific consideration of the development of practical training in agriculture, home economics, industry, and commerce, with particular reference to their place in the public school system. Mr. Allen

360. Problem in Education. I, II, S. 1-3 hr. Total minimum, 3 hr. Research for Master's Degree in Education, option B. Staff

361. Thesis in Education. I, II, S. 1-6 hr. Total minimum, 6 hr. Research for Master's Degree in Education, option A. Staff

362. Project in Education. I, II, S. 1-12 hr. Total minimum, 6 hr. Research for the program leading to the Certificate of Advanced Study in Education. Staff

363. Dissertation. I, II, S. Research for the Doctor of Education Degree. Staff

364. Advanced Methods in Teaching Industrial Arts. II, S. 2 hr. PR: Ed. 194. Industrial arts development; effective use of instructional materials; methods of evaluating industrial arts subjects. Mr. Ault and Mr. Brennan

365. Curriculum Construction in Industrial Arts. S. 3 hr. PR: Consent of Instr. Techniques used in building a curriculum in industrial arts. Mr. Ault

366. Teaching the Language Arts. I, II, S. 2 hr. PR: Consent of Instr. Advanced study of the interrelationships of the language arts. Mr. Kennedy

367. Teaching the Social Studies in Secondary Schools. I, II, S. 2 hr. PR: Consent of Instr. Survey course in teaching the social studies. Mr. Cook

370. Rehabilitation Counseling—Seminar in Medical-vocational Aspects. I. 2 hr. PR: 21 hr. in social sciences. Contribution of medicine in the rehabilitation process from referral to vocational placement of the handicapped in employment. Mr. McCauley

372. Statistical Methods in Education. I, II, S. 2 hr. PR: 20 hr. of Education. Mr. Hofstetter

373. Basic Course in Principles and Practices of Guidance. II, S. 3 hr. An overview of a total guidance program. Mr. Jarecke

374. Occupational Information Techniques. II, S. 2 hr. PR. Ed. 373. Methods of gathering and disseminating occupational and educational information. Mr. Jarecke

375. Individual Inventory Techniques. II, S. 2 hr. PR: Ed. 373. Comprehensive study of all objective measures used in schools; techniques of administration, interpreting and recording results. Mr. Jarecke

376. Counseling Techniques. I, II, S. 2 hr. PR: Ed. 373, 374, 375. Study of and practices in techniques of counseling. Mr. Jarecke

377. Special Counseling Problems. I, II, S. 3 hr. PR: Ed. 373, 374, 375, 376. Work with actual problem cases according to clinical procedures. Cases to be pursued to satisfactory conclusion. Mr. Jarecke

378. Advanced Studies of Human Adjustment. II, S. 2 hr. PR: Ed. 373, 374, 375, 376. Analytical consideration of identification, causes, and development of psychological maladjustments; further study of developments in counseling and background in advanced studies in guidance. Mr. Jarecke

379. Organization and Administration of Guidance Services. II, S. 2 hr. PR: Ed. 373, 374, 375, 376. Operative framework of guidance programs in terms of personnel, functions, relationships, physical facilities, instructional integration, finance standards, laws and regulations. Mr. Jarecke

380, 381, 382, 383. Practice in Supervision. I, II. Credit: 2 hr. ea. PR: Assignment to actual full-time work in supervision in a school system, previous certification, and consent of Instr. Each course a continuation of the preceding. To complete the entire 8 hours, not less than two full years of field experience under control of Director of Supervised Training will be accepted. Mr. Hofstetter

384. Rehabilitation Counseling—Seminar in Personnel-Vocational Counseling Aspects. II. 3 hr. PR: 21 hr. in social sciences. Occupational information on placement of the handicapped. Mr. McCauley

385. History of Education in the United States. I, II, S. 2 hr. Origins, development, and significance of educational movements. Staff

386. Rehabilitation Counseling—Special Problems and Workshops. II or S. 1-3 hr. Rehabilitation problems and techniques involving several types of disablement such as blindness, mental deficiency and retardation, and epilepsy. The course provides for special seminars and institutes for orientation and training of employed personnel in rehabilitation programs. Mr. McCauley

387. Rehabilitation Counseling—Field Work. I, II, S. 1-2 hr. PR: Ed. 374 or Soc. Work 301. Field practice in a rehabilitation setting in selected agencies under general direction of faculty and under direct supervision of an agency supervisor, in a block or concurrent plan requiring 50 clock hours for each semester hour of credit. Mr. McCauley

388. Introduction to Vocational Rehabilitation. I, II, or S. 3 hr. Study of problem and extent of disablement, historical development and legal basis, concepts, processes, and case development techniques in vocational rehabilitation as a public service to physically and mentally handicapped adults. Mr. McCauley

389. Rehabilitation Counseling—Non-casework Aspects. II or S. 1 hr. PR: Psych. 387 (min. 5 hr.). Post field-work class designed to clarify interpretations in concepts, processes, and casework problems in light of field-work experience. Non-casework aspects of the counselor's role, such as administrative responsibilities and public relations in rehabilitation programs. Mr. McCauley

395, 396, 397, 398. Practicum. I, II, S. 1-4 hr. per sem. or term—aggregating not more than 12 hr. PR: 8 graduate hr. in Education. Enrollment with permission of adviser or instructor in consultation. Special individual and group projects. To provide appropriate credits for special workshops, prolonged systematic conferences on problems and projects in Education. Credits in these projects cannot be substituted for required courses and must be done in residence. Staff

Agricultural Education: Mr. Butler
Audio-visual Education: Mr. Allen
Educational Measurement and Evaluation: Mr. Jarecke
Educational Psychology: Mr. Jarecke, Mr. Kennedy, Mr. Peluso
Educational Sociology: Mr. Baldwin
Guidance: Mr. Jarecke
Elementary Education: Mr. Feaster, Mr. Kennedy, and Mr. Morrone
Home Economics Education: Miss Brown, Miss Noer
Human Growth and Development: Mr. Hofstetter, Mr. Kennedy
Industrial Arts Education: Mr. Allen, Mr. Ault, Mr. Brennan
Music Education: Mr. Brown
Philosophy of Education: Mr. Baldwin
School Administration: Mr. Baldwin
Secondary Education: Mr. Cook, Mr. Hofstetter, Mr. Peluso
Special and Adult Education: Mr. Allen, Mr. Jarecke
Supervision: Mr. Miller and Mr. Hofstetter
Teaching of Mathematics: Mr. Feaster, Mr. Kennedy, Mr. Morrone
Teaching of Science: Mr. Kennedy, Mr. Morrone
Teaching of Social Sciences: Mr. Cook, Mr. Kennedy, Mr. Morrone, Mr. Peluso
Vocational Education: Miss Brown, Miss Noer, Mr. Allen, Mr. Butler
Rural Education: Mr. Allen, Mr. Kennedy

399. Techniques of Educational Research. II. 2 hr. PR: Ed. 372, consent of Instr. Application of research techniques to problems in modern education; analysis and implications of results. Mr. Hofstetter

The College of Engineering and Mechanic Arts; The School of Mines

GENERAL INFORMATION

THE COLLEGE OF ENGINEERING AND MECHANIC ARTS AND THE SCHOOL OF MINES

For the purpose of administration and instruction, the College of Engineering and Mechanic Arts is organized into the following departments:

Aeronautical Engineering (A.E.)	Electrical Engineering (E.E.)
Agricultural Engineering (Agr.E.)	Mechanical Engineering (M.E.)
Chemical Engineering (Ch.E.)	Industrial Engineering (I.E.)
Civil Engineering (C.E.)	Mechanics (M.)

All the mining and industrial extension work of the University is organized under the School of Mines. For the purpose of administration the school is divided into the following divisions:

Mining and Industrial Extension	Mining Engineering (E.M.)

Buildings and Equipment

Chemical engineering and mining engineering are housed in the Mineral Industries Building. Agricultural engineering is in the Forestry Building. Aeronautical, civil, electrical, industrial, and mechanical engineering are housed in Engineering Building No. 1, located at North High and Prospect Streets. The machine and welding shops, the heat and power laboratory, the electrical engineering laboratory, and some of the general drafting rooms are in this building.

The sanitary laboratory, materials testing laboratory, hydraulic laboratory, and the offices and laboratories of the Materials Engineer of the State Road Commission are located in Engineering Building No. 2, located just south of the Field House on Beechurst Avenue.

In 1943-44 a modern brick and steel hangar, 80 by 120 feet, and a connecting building containing class rooms, shops, office, pilot room, and boiler room were constructed on University property adjacent to the Morgantown Municipal Airport. Courses in flight training and aeronautical engineering are taught in these two structures.

The University has one Cessna Model 140 airplane, one Cessna 170A airplane, and three Piper PA-18 airplanes which are used for flight training. On the west side of the hangar is a concrete apron, 100 by 100 feet, which is connected to the Municipal Airport by a concrete taxi strip.

A Cessna four-place Model 182 plane is used by the Aeronautical Engineering department for a course in flight testing. The Cessna 170A airplane is equipped for aerial photography and is utilized by the Civil Engineering Department for that purpose.

The Cessna planes are equipped with instruments for full-panel and partial-panel instrument flight instruction. A Link Instrument Trainer is used in conjunction with these airplanes to supplement the instruction. The planes are equipped with low-frequency and very-high-frequency two-way radio equipment, and three have complete Omni-direction Range navigation radios.

In 1950 the *Aerodynamics Laboratory Building* was constructed. This structure houses a modern low-turbulence wind tunnel, used for instruction and research. The tunnel, a single-return type, has a test section area of 10 square feet. The 125-horse-

power system provides a range of airspeeds from zero to 200 miles per hour. The tunnel is adaptable for tests on model aircraft, full scale components, and tests of a thermodynamic nature.

On the west side of this building is a 30- by 40-foot room with a 38-foot opening, which is connected to the hangar apron by a taxi strip. This area is used for airplane maintenance and for model construction.

In 1958 work was started on a supersonic wind tunnel. The wind tunnel is designed for continuous operation at a Mach Number of 1.50, or approximately 1,150 miles per hour. It is powered by four vacuum pumps, each of which is driven by a 150 h.p. electric motor. In its initial configurations, the wind tunnel will operate as an indraft type. The design includes provisions for converting to a return-type tunnel for operation for a higher Mach number. The wind tunnel is equipped with a by-pass to facilitate model changes and adjustments.

The *Agricultural Engineering Laboratories* are in the Forestry Building. The Tractor Laboratory has a 60 h.p. General Electric Dynamometer which is used to measure the performance of an S.D. 220 International Harvester six-cylinder engine. It can be used for measuring the belt-power performance of tractors, and the horsepower requirements of farm machines such as balers, combines, crushers, etc. The laboratory also contains tractor engines from leading manufacturers and modern farm machinery loaned by manufacturers for educational use.

The Farm Electrification and Processing Laboratory, along with the Farm Shop, are located on the second floor. A new 15 h.p. General Electric Dynamometer and several D.C. motors have been added to the teaching and research equipment of these laboratories.

The Research Laboratories are on the ground floor of Oglebay Hall Annex, and in a large pole barn located on the Evansdale Campus.

The *engineering drawing rooms,* located in Engineering Building No. 1, contain collections of mechanisms, drawings, tracings, charts, state and federal maps, surveys, photographs, engineering specifications, and blueprints. Blueprinting and other reproduction equipment is used to make copies of drawings.

The *heat power laboratories* contain equipment for demonstrating the conversion of heat energy to useful work, and includes facilities for instrumentation studies. The equipment consists of thermometers, thermocouples with potentiometer indicators, dead weight testers, manometers, Venturi meters, orifices, pitot tubes, steam calorimeters, Orsat analyzers, steam and other equipment for instrumentation studies. Fuel and lubrication equipment includes a precision gas calorimeter, a Parr oxygen bomb calorimeter, viscosimeters, hydrometers, carbon residue apparatus, and a flash- and fire-point tester.

Energy anaylses are made of a two-stage air compressor, an axial flow fan, a centrifugal pump, a modern steam turbine loaded with a dynamometer, a centrifugal fan, diesel electric power unit, automotive engine with dynamometer, a complete refrigeration cycle, and a CFR (cooperative Fuel Research) engine.

Facilities at the University Heating Plant permit complete performance testing of a modern, high-pressure steam generator.

The *electrical laboratory* has motor-generator sets which supply direct-current power to meet the special requirements of the laboratories. These motor-generator sets supplement the power available from the local power company.

The *machinery laboratory* has standard types of motors, generators, dynamometers, transformers, loading resistors, reactors, capacitors, and other standard equipment for demonstrating the principle of electrical machinery. Many special types of machines are also available, including special relay demonstration boards.

The *measurement laboratory* has many types of measuring instruments for use in measuring various electrical and magnetic quantities.

The *communications and electronics laboratory* has various electronic devices for testing and demonstrating equipment used in the field of electronics. Some ultra-high frequency equipment is available for micro-wave demonstration and measurement.

The Industrial Engineering *motion and time study laboratory* contains time-study watches, motion picture projection equipment, films, viewers and editors, motion picture camera, wink counter, and special timing equipment. A multi-purpose polygraph is available for recording pulse, blood pressure, and respiration. A portable oscillograph, equipped with an amplifier, is also available for research.

The *manufacturing processes laboratories* are equipped to permit instruction to be given regarding metal-manufacturing processes. The laboratory equipment and specific processes include:

1. Basic or general purpose metal-cutting machine tools that permit demonstration of and practice in performing the basic metal-cutting operations of turning, drilling, milling, and planing. A gage laboratory permits non-precision linear and angular measurement of the product.
2. Oxyacetylene welding and cutting, electric arc welding, and heliarc welding equipment permit demonstration and practice in these areas.
3. Foundry equipment for sand testing and bench molding, and a melting furnace for non-ferrous metals permit the production of castings.

The *materials testing laboratory* is equipped with machines for testing concrete, iron, steel, brick, stone, and other construction materials. The principal machines are two hydraulic Baldwin-Southwark universal testing machines of the latest type, one of 200,000-pound capacity, and the other of 60,000-pound capacity. Other machines include a 10,000 inch-pound torsion machine, and Brinell, Rockwell, and Shore hardness testers. Photo-elastic equipment has been provided for stress analysis, and complete electrical-resistance strain-gage apparatus is utilized for demonstration and research purposes.

In the *hydraulic laboratory* students work together in comparatively small groups studying in three dimensions the configuration of flowing water and the devices for pumping water and measuring its velocity, volume, pressure, and weight which at best are unsatisfactorily illustrated in text material. The calculations, which are a part of each report, take on a new and physical meaning. Facilities are available to study the pumping of water, its energy loss in pipes and various types of meters, open channel flow, weirs, and orifices.

The *sanitary engineering laboratory* is well equipped for student and research work in the fields of water purification and sewage treatment. The aim is to give the student opportunity to experiment with the physical, chemical, and biological characteristics of water. The degree of purification resulting from various forms of treatment is measured and the cost of the process determined. Experience in the use of scientific equipment is gained, not as an end in itself, but as a by-product of the study of various forms of treatment on the water or sewage.

A complete array of *surveying equipment* is available for use on the campus during the regular semesters and at *Camp Russell L. Morris* during the summer. Field problems are not designed simply to develop skill in the use of transits, levels, plane tables, tapes and rods, but to make the theoretic class discussion become real and understandable in the eyes of the student. Field experience is also vital in helping the student grasp the idea of errors, compensating and accumulative, which are so important in using the information collected by the surveyor.

The *photogrammetry laboratory* is equipped with many of the elementary instruments for making both planimetric and topographic maps from aerial photographs. Available for the use of students who elect this course are stereoscopes, sketchmasters, radial planimetric plotters, stereocomparagraphs, and an autofocusing reflecting projector.

Through the cooperation of the *State Road Commission Testing Division*, a wealth of equipment is available for use by civil engineering students. In their senior year, they may elect the study of test methods used to determine whether or not construction materials comply with the specifications under which they were purchased. Becoming familiar with modern specifications and the reasons behind them is the main objective here. Proper manipulation of the equipment is necessary, but is only a small part of the benefit which comes from the work done.

Design and drawing rooms are available and are completely equipped with modern facilities. Surveying classes work out graphical and analytical problems here as well as plot and finish maps. Highway design, structures, hydraulic engineering, and photogrammetry all require work in these rooms and they are frequently used by students for general work as well.

The laboratories for *chemical engineering unit operations* and *unit processes* are well equipped for small-scale production of industrial chemicals and for conducting experimental work for the collection of performance and design data. In connection with this equipment there is provided a completely equipped modern chemical laboratory furnished with specialized instruments and apparatus. The ceramics

laboratories are well equipped for instruction and research and for practically all routine tests and analysis. The *metallurgy laboratory* is well equipped for experimental work along the lines of heat treating and photomicrographic examination of metals and alloys. The *electrochemical industries and corrosion laboratory* is equipped for corrosion studies and investigations on electro-deposition and electrochemical processes. The *fuels and oil-testing laboratories* are equipped for the usual routine tests and analysis and for many specialized tests and investigations.

With the aid of a grant from the Atomic Energy Commission, the department is being equipped for work in *nuclear engineering* on the undergraduate and graduate levels. A sub-critical reactor and an electronic reactor simulator have been ordered, and a graphite pile to be used for neutron studies is under construction. The laboratory is equipped with instruments for detection and measurement of radioactivity. A cobalt 60 source of moderate strength is contemplated in the near future; it will be used to study the effects of gamma radiation on chemical reactions.

The services available in the *chemical engineering laboratories* are: 110- and 220-volt a.c., 2- and 150-volt d.c., superheated and saturated steam, compressed air, vacuum, gas, and hot and cold water. Other facilities available in this department are (1) a large well-equipped drawing and design room with an extensive collection of catalogs and texts on plant equipment and structures; (2) a locker room with individual student lockers, industrial washers, and showers; (3) a cold room with automatic temperature control; (4) a well-equipped shop operated by a skilled mechanician; (5) a large stockroom for chemicals, apparatus, and instruments, with an adjacent special chamber for acid storage; and (6) separate research laboratories.

The latest trade literature, catalogues, and reports of chemical developments in engineering are kept in classified files for students' reference. The University library has a thoroughly classified and indexed collection of the standard and latest books in engineering and the allied sciences, complete bound sets of the transactions of several scientific and engineering societies, and current issues and bound volumes of the principal scientific technical periodicals.

The extensive technical library donated by Mrs. Mary Dille Emory as a nucleus for a memorial to her husband, Professor Frederick Lincoln Emery, deceased, is also available for use.

School of Mines Laboratory

The mining laboratories in the Mineral Industries Building are designed to supplement the technical instruction related to the various phases of mining engineering and to correlate basic theory and principles with their application in industrial practice.

The *mining laboratory* includes various types of electrical control systems commonly used with modern mining equipment, especially arranged to permit analysis of the electrical circuits and operating principles. Specimens of typical equipment for drilling, cutting, and blasting are included, together with key assembly parts of such units. There also are devices for demonstrating and determining the explosibility of suspended dusts, dust analysis equipment, apparatus for determining dust counts, and models showing methods of working anthracite, bituminous coal, and mineral deposits.

The *mine ventilation laboratory* is equipped with centrifugal and multistage axial flow fans, together with the necessary facilities for demonstrating the principles of fluid flow as related to mine ventilation and determination of the performance characteristics of the fans used. A gas testing room is provided for practice and demonstration with flame safety lamps and other gas detection devices. The laboratory is provided with apparatus and facilities for air analyses; and the William Clifford and James T. Beard collection of safety lamps is of particular academic interest as related to the history and development of safe mine lighting.

The *fuels laboratory* is especially equipped for the analysis and study of fuels, with particular emphasis on coal and coke. The equipment includes analytical balances, calorimeters, drying and roasting ovens, fusion furnaces, and special equipment necessary for the proximate and ultimate analysis of coal and the determination of coking and ash fusion characteristics. An X-ray diffraction unit is available for special analytical work.

The *coal preparation laboratory* is outstanding in its facilities for coal testing and in the variety of coal cleaning and preparation equipment provided. The testing equipment includes facilities for screen analysis, float and sink separation, and the various units required to reduce and prepare samples for laboratory analysis. The coal cleaning equipment available for instructional and research purposes includes a

complete range of machines and methods employed in commercial installations for the beneficiation of coal and minerals. The principal cleaning and concentration equipment and methods are represented by self-contained pilot units with auxiliary equipment to permit complete test operation and are in addition to a wide range of individual devices for demonstration and instructional purposes.

The *oil and gas laboratory* contains a full range of equipment necessary for determination of the chemical and physical properties of oil and gases as related to their use, transmission, and production. Apparatus and facilities are provided for core analysis to determine saturations, porosity, permeability, and grain structure of producing sands, together with diamond core drills and saws for the preparation of samples for such tests. Also included are various specimens of drilling and other production equipment for instruction and demonstration, together with rotary drilling mud testing apparatus. The gas measurement section includes bell-types, critical flow, and low pressure flow provers for testing meters of various types. Also provided is a wide range of domestic, orifice, and large capacity displacement meters with the necessary meter runs for their operation.

Special equipment for instruction in *geophysics* is provided, and the School maintains an earth-movement recording seismograph station, operated in accordance with standards approved by the U. S. Coast and Geodetic Survey, for recording earthquakes and the movement of severe storm zones. Portable blast seismic instruments are available for field testing and demonstration.

Facilities for Inspection Trips

The University is located in a region which affords the student unusual opportunities for practical observation and education in engineering. Morgantown is the center of an extensive coal region in which are large workings of the Pittsburgh, Sewickley, and upper Freeport seams, while nearby are the Fairmont and Connellsville fields. West Virginia's gas and oil district approaches within four miles of the city. The region abounds with rich deposits of glass sand, limestone, clay, shales, and valuable building stone.

Within the city limits and in nearby towns are numerous factories and plants, including large steam and hydraulic central stations for the production of electric power, cement plants, extensive glass factories manufacturing glass of every description, an anhydrous ammonia plant, brick plants, by-products coking plants, brass and iron foundries, large oil- and gas-pumping stations, glass sand and limestone crushing plants, etc.

Pittsburgh, the center of the world's largest iron and steel industries, is only seventy-four miles from the University. The Wheeling area, with its large steel and ceramic industries and its modern central stations, is approximately the same distance. The rapidly expanding Ohio River Valley industrial area in the vicinity of Parkersburg and the concentrations of plants in the Kanawha Valley afford an excellent opportunity to visit modern chemical plants.

Organized inspection trips under faculty supervision are taken each year. Credit for one inspection trip is required for graduation.

National Societies

Student chapters of several national professional societies are maintained. They include the Institute of Aeronautical Sciences, American Society of Agricultural Engineers, American Institute of Chemical Engineers, American Society of Civil Engineers, American Institute of Electrical Engineers, American Institute of Radio Engineers, American Institute of Mining, Metallurgical, and Petroleum Engineers, American Society of Mechanical Engineers, and American Institute of Industrial Engineers. Meetings of the student chapters are held monthly.

The West Virginia Alpha Chapter of Tau Beta Pi was installed at West Virginia University on June 3, 1922. Tau Beta Pi is the honorary engineering fraternity and has candidates for the Degree of Bachelor of Science in Aeronautical, Agricultural, Chemical, Civil, Electrical, Industrial, Mechanical, and Mining Engineering who have maintained a rank in scholarship in the highest one-fifth of the class.

The West Virginia Upsilon Chapter of Sigma Gamma Epsilon was installed at West Virginia University on May 27, 1927. Sigma Gamma Epsilon is an honorary mineral industries fraternity with chapters in thirty of the leading universities. Seniors and juniors in mining engineering and majors in metallurgy and ceramics in chemical engineering who have attained high scholarship rank are eligible for membership.

The West Virginia Phi Gamma Chapter of Pi Tau Sigma was installed at West Virginia University on March 31, 1942. This is an honorary mechanical engineering fraternity with chapters in sixty-seven universities. Seniors and juniors in mechanical engineering who have attained a high scholastic rank are eligible for membership.

The West Virginia Beta Rho Chapter of Eta Kappa Nu, national electrical engineering honorary, has qualifications for membership which distinctly stimulate and reward high scholarship. The upper one-fourth of the junior class and the upper one-third of the senior class who have high scholastic standings and good character are eligible for membership. A loan fund is maintained by the local chapter for students enrolled in the College of Engineering.

The West Virginia Chapter of Chi Epsilon was installed at West Virginia University on May 14, 1949. This is an honorary civil engineering fraternity with chapters in forty-four colleges and universities. Seniors and juniors in civil engineering who have attained a high scholastic rank are eligible for membership.

The West Virginia Chapter of Alpha Pi Mu was installed May 14, 1955. This is an honorary industrial engineering fraternity with chapters in fourteen universities having accredited curriculum. Senior and junior industrial engineering students who have attained high scholastic rank are eligible for membership.

The West Virginia Chapter of Sigma Gamma Tau was installed May 21, 1955. This is an honorary aeronautical engineering society with chapters in fifteen leading universities and colleges. The society recognizes and honors junior and senior students in aeronautical engineering who have through scholarship, integrity, and outstanding achievement been a credit to West Virginia University.

STANDING COMMITTEES

Engineering Schedules: Professor E. C. Jones.

Library: Professors Seibert and Speiden; Associate Professor Slonneger.

Committee on Scholarship: Professors C. H. Cather, Dickerson, and M. J. Smith; Associate Professor Strait.

Course Waivers and Substitutions: Dean Arents; Professors C. H. Cather and P. R. Jones; Associate Professor Hamilton.

Procedures Committee: Associate Professors Weaver and Slonneger; Assistant Professor Dubbe.

REQUIREMENTS FOR DEGREES

Any student, in order to be eligible to receive a Bachelor's degree in any branch of engineering for which degrees are offered, in addition to satisfying all entrance requirements, shall be required to complete satisfactorily the number of semester hours of work as specified in the curriculum of the department leading to the degree for which the student is a candidate, plus the general requirements of physical education, military or air science, and English proficiency by the University for such a degree.

A grade of "C" or better must be attained in each mathematics course before registration in a subsequent mathematics course is allowed. This rule shall not apply to Mathematics 2 and Mathematics 7.

SUBSTITUTIONS

The following substitutions are regularly allowed in addition to special substitutions listed elsewhere:

Chem. 115 for Chem. 15.

Physics 1, 2, 109, and 110 for Physics 111 and 112.

Ch.E. 235 for Ch.E. 234.

THESIS

Any candidate for a baccalaureate degree in engineering may, with the consent of his major professor, prepare a thesis on some subject relating to a special branch of engineering or other department of applied science. It will be presented for approval first to the instructor under whose guidance it has been prepared, then to the head of the department in which the degree is to be conferred. A typewritten copy

of the thesis, prepared in accordance with official specifications and signed by both the instructor in charge and the head of the department, must be placed in the University library before graduation.

THE COLLEGE OF ENGINEERING CURRICULA

The several four-year curricula are set up to give, in the first two years, a well-rounded training in the basic sciences of mathematics, chemistry, and physics, and in English. A moderate amount of shop work, drawing, and surveying is included, to introduce the student to the practical side of engineering.

This is followed by such technical subjects as mechanics, thermodynamics, and electricity. The degree of emphasis varies somewhat with the curriculum followed. These courses bridge the gap between the pure sciences and the professional courses. In addition, courses in the humanities are given throughout the four years.

In the third and fourth years, special emphasis is placed on the professional work of the engineer. In these years a certain number of credit hours are available for electives.

The curricula are:

1. A four-year curriculum leading to the degree of Bachelor of Science in Aeronautical Engineering.

2. A four-year curriculum leading to the degree of Bachelor of Science in Agricultural Engineering.

3. A four-year curriculum leading to the degree of Bachelor of Science in Chemical Engineering.

4. A four-year curriculum leading to the degree of Bachelor of Science in Civil Engineering, with option in sanitary engineering.

5. A four-year curriculum leading to the degree of Bachelor of Science in Electrical Engineering.

6. A four-year curriculum leading to the degree of Bachelor of Science in Industrial Engineering.

7. A four-year curriculum leading to the degree of Bachelor of Science in Mechanical Engineering.

8. Combined science and engineering curricula extending over five or more years leading to the Degree of Bachelor of Science and Bachelor of Science in Engineering.

Plan for Numbering Courses

For convenience it is customary to designate the course of study by the name of the department or group of departments and the number of the particular course. Whenever reference is made to engineering courses in the course anouncements and textual matter, the department or groups will be indicatd as follows:

Aeronautical Engineering	A.E.	Industrial Engineering	I.E.
Agricultural Engineering	Ag.E.	Mechanical Engineering	M.E.
Chemical Engineering	Ch.E.	Mechanics	M.
Civil Engineering	C.E.	Mining Engineering	E.M.
Electrical Engineering	E.E.	General	G.

The plan for numbering courses is as follows:

Courses 1 to 99—intended primarily for freshmen and sophomores.
Courses 100 to 199—junior and senior courses not open to graduates.
Courses 200 to 299—advanced courses for juniors, seniors, and graduates.
Courses 300 to 399—advanced courses open only to graduates.

Classification of Students

To be classified as a freshman in the College of Engineering or the School of Mines, a student must have credit for at least 15 units of entrance requirements. To be classified as a sophomore he must have credit toward his degree for 30 hours; as a junior 72 hours; as a senior 112 hours; except that a student who is a candidate for the degree of Bachelor of Science to be classified as a sophomore must have credit for 27 hours of college work, as a junior, 60 hours; as a senior, 94 hours.

CURRICULUM IN AERONAUTICAL ENGINEERING

Degree: Bachelor of Science in Aeronautical Engineering

The aeronautical engineering curriculum has been arranged to furnish the student with a comprehensive fundamental background. It includes subject matter in the fields of aerodynamics, aircraft structures, propulsion, and aircraft design.

The senior year elective system provides students with an opportunity to emphasize study in a particular field.

Seniors are required to make an organized inspection trip. This trip takes place during the fall semester and usually includes visits to both government aeronautical research laboratories and industrial plants.

Theory courses are coordinated with laboratory courses in order to furnish the students with an opportunity to become familiar with modern laboratory equipment and techniques.

The Aeronautical Engineering Department operates six laboratories:

1. *Subsonic Wind Tunnel*—a 200-mph low-turbulence wind tunnel is used for research and to supplement lecture courses in theoretical and applied subsonic aerodynamics.

2. *Supersonic Wind Tunnel*—a Mach 1.50 continuous-flow indraft-type wind tunnel is used for research and instruction, particularly at the graduate level.

3. *Aircraft Structures Laboratory*—to augment classroom work dealing with the theory of aircraft structural analysis.

4. *Design Laboratory*—for second and fourth year courses in detail, aerodynamic, and structural design.

5. *Flight Test Airplane*—a Cessna Model 182 airplane is used as a flying laboratory for a course in flight testing.

6. *Flight Hangar*—houses six University-owned airplanes. Five of the airplanes are used for flight training instruction. (See Aviation courses on page 307).

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 1—Inorganic Chem.	4	Chem. 2—Inorganic Chem.	4
English 1—Comp. and Rhet.	3	English 2—Comp. and Rhet.	3
G. 1—Eng'g Lectures	Cr.	Math. 5—Analytical Geom.	4
Hist. 53—Mod. America or M.E. 20—Eng'g Drawing	3	I.E. 11—Machine Work	2
Math. 3—College Algebra	3	M.E. 20—Eng'g Drawing or Hist. 53—Mod. America	3
Math. 4—Plane Trig.	3	Mil. or Air Sci. 2	2
Mil. or Air Sci. 1	2	Phys. Ed. 2	1
Phys. Ed. 1	1		
	19		19

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Eng. 25, 26, or 27—Intro. to Lit.	2	A.E. 116—Aircraft Det. Design	2
Math. 107—Calculus	4	English 126—Adv. Comp.	3
M.E. 26—Descriptive Geom.	2	M. 101—Statics	3
Mil. or Air Sci. 3	2	Math. 108—Calculus	4
Phys. 111—Gen. Phys.	5	Mil. or Air Sci. 4	2
Speech 11—Public Speaking	3	Phys. 112—Gen Phys.	5
	18		19

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
A.E. 201—Elem. Aerodynamics	3	A.E. 202—Aerodynamics	3
M. 102—Mech of Materials	3	A.E. 209—Aircraft Perf. & Stab.	4
M. 104—Kinetics	3	A.E. 210—Basic Aircraft Struc.	3
Math. 243—Adv. Applied Math.	3	C.E. 115—Fluid Mechanics	3
M.E. 121—Thermodynamics	3	M. 103—Mech. of Materials	3
Non-Tech. (Group I)*	3	Non-Tech. (Group II)*	3
	18		19

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
A.E. 207—Aerodynamic Design	3	A.E. 205—Experimental Aerodyn.	2
A.E. 211—Redundant Aircraft Struc.	3	A.E. 212—Applied Aircraft Design	3
A.E. 217—Aircaft Structural Des.	3	A.E. 213—Aircraft Structures Lab.	1
A.E. 224—Reaction Engines	3	Econ. 2—Prin. of Economics	3
Ch.E. 250—Physical Metallurgy	3	E.E. 105—Electrical Fund.	4
Econ. 1—Prin. of Economics	3	Electives (Tech)**	5
G. 100—Inspection Trip	Cr.		
	18		18

**Non-Technical Electives* (Grp. I)

Phil. 4—Intro. to Philosophy	3
Psych. 1—Intro. to Psychology	3

Non-Technical Electives (Grp. II)

Pol. Sci. 101—Intro. to Govt.	3
Soc. 1—Intro. to Sociology	3

***Technical Electives*

Technical electives may be selected from advanced mathematics, physics, E.E. 106, flight training (3 credit hours maximum), or any engineering course in the 200 series.

CURRICULUM IN AGRICULTURAL ENGINEERING

Degree: Bachelor of Science in Agricultural Engineering

Agricultural Engineering is the application of engineering principles to agriculture. Success in the application of engineering fundamentals to the agricultural industry requires knowledge of both the biological and physical sciences. The purpose of the course is to give the student general training in agricultural and engineering fundamentals. Considerable stress is given to basic requirements of plant and animal life which affect engineering practices, but greater emphasis is placed on a thorough knowledge of those underlying principles and methods which are the foundation of all the engineering professions.

Although the curriculum gives no opportunity for specialization, Agricultural Engineering is made up of four major fields. These are Farm Power and Machinery, Farm Structures, Soil and Water Conservation, and Electric Power and Processing.

Students preparing to take Agricultural Engineering should present for entrance as many units as possible in mathematics, chemistry, and physics.

Some of the organizations and industries employing agricultural engineers are electric power companies and cooperatives; farm machinery manufacturers and distributors; manufacturers and distributors of building materials; oil companies; electric-equipment and other suppliers of farm utilities; trust companies; farm management agencies; federal agencies such as Soil Conservation Service; U. S. Department of Agriculture, Federal Land Bank, and Indian Service; colleges and universities; Army and Navy, and foreign governments.

Opportunities for employment are numerous. At no time since the establishment of the profession has it been crowded; the outlook is good for a continuance of this situation. With agriculture becoming increasingly mechanized, the demand for agricultural engineers is increasing and should continue to increase. New opportunities arise as mechanization continues. Starting salaries are in line with salaries in other branches of engineering.

FIRST YEAR AGRICULTURAL ENGINEERING

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 1—Inorganic Chem.	4	Chem. 2—Inorganic Chem.	4
English 1—Comp. and Rhet.	3	English 2—Comp. and Rhet.	3
G. 1—Eng'g Lectures	Cr.	Math. 5—Analytical Geom.	4
Hist. 53—Modern America	3	I.E. 11—Machine Work	2
Math. 3—College Algebra	3	M.E. 20—Eng'g Drawing	3
Math. 4—Plane Trig.	3	Mil. Sci. 2 or Air Sci. 2	2
Mil. Sci. 1 or Air Sci. 1	2	Phys. Ed. 2	1
Phys. Ed. 1	1		
	19		19

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Ag.E. 10—Intro. to Agr. Eng'g	3	Math. 108—Calculus	4
Math. 107—Calculus	4	M.E. 39—Mechanism	2
M.E. 26—Descriptive Geometry	2	M. 101—Statics	3
Mil. Sci. 3 or Air Sci. 3	2	Mil. Sci. 4 or Air Sci. 4	2
Phys. 111—Gen. Phys.	5	Phys. 112—Gen. Phys.	5
Ag. Econ. 102—Agr. Economics	3	English 126—Adv. Comp.	3
	19		19

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Ag. Econ. 104—Farm Management	3	Ag.E. 100—Farm Structures	3
E.E. 105—Elect. Fundamentals	4	C.E. 1—Surveying	2
M. 102—Mech. of Materials	3	C.E. 115—Fluid Mechanics	3
M. 104—Kinetics	3	E.E. 106—Electrical Machinery	4
Agronomy 2—Soils	4	M.E. 121—Thermodynamics	3
I.E. 7—Welding & Heat Treatment	1	M. 103—Mech. of Materials	3
	18		18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Ag. E. 110—App. of Elect. to Agr.	3	Ag. E. 190—Farm Machinery	3
Ag. E. 140—Soil & Water Cons.	3	Agronomy 1—Farm Crops	4
Ag. E. 200—Seminar	1	G. 100—Inspection Trip	Cr.
M.E. 113—Design of Mach. Members	3	Speech 11—Public Speaking	3
Ag. E. 230—Farm Power	4	Electives (Agr.)	3
Elect. (Agri.)	3	Elect. (Eng'g)	3
		Elect. (Non-Tech.)	3
	17		19

Agricultural Electives may be selected from Agron. 230, Dairy Husb. 11, 12, An. Husb. 11, Poultry Husb. 1, or Hort. 1, 2 or 229.

Engineering Electives may be selected from Ag. E. 240, Chem. E. 250, 284, Civil E. 122, I.E. 140, M.E. 203, or Geology 1.

Non-Technical Electives may be selected from Rural Soc. 105, Pol. Sci. 101, Hist. 2, 52, Psychology 1, Philosophy 4, and Sociology 1.

CURRICULUM IN CHEMICAL ENGINEERING

Degree: Bachelor of Science in Chemical Engineering

The standard four-year course in chemical engineering has been developed to qualify young men for positions in operation, design, construction, and management of manufacturing plants in which raw materials are subjected to chemical and physical changes to produce finished products.

This curriculum includes fundamental courses in mathematics through differential equations; inorganic, analytic, organic, and physical chemistry; physics; basic engineering, engineering drawing, mechanics, and strength of materials; chemical engineering principles, calculations, thermodynamics, design, unit operation, unit processes, and economics; and electrochemical and chemical technology. This curriculum provides the student with a broad foundation in the fundamental principles of those subjects which wide experience has shown are essential for a successful career in the chemical engineering profession; or as engineers in any industry involving a succession of unit operations and unit processes.

To complete the requirements for the Bachelor of Science in Chemical Engineering degree in four years, students should follow the curriculum as outlined, although it is definitely advisable to take Organic Chemistry 233 and 238 in the Summer Session before the third year.

Students preparing to take chemical engineering should present for entrance as many units as possible in mathematics, chemistry, and physics. It is desirable, also, to have units in German, French, or Spanish. While certain basic courses in English, economics, and public speaking are required in the regular curriculum, a student will obtain a broader education in economics, history, language, science, applied technology, and engineering by taking the combined Bachelor of Science and Chemical Engineering courses. By a careful selection of electives, both degrees may be earned in five years.

In recognition of the increasing tendency on the part of industry to promote engineers to administrative and executive positions, the curriculum has been broadened to include more required work in the field of humanities. Additional elective courses may be selected from the humanities and business administration courses.

In addition to the demand for students trained in chemical engineering, there is considerable demand throughout the State for men trained in ceramics, metallurgy, and fuel technology. These fields are closely allied with chemical engineering. A basic course in general metallurgy is required for all students seeking a degree in chemical engineering. In addition, students may elect courses in metallurgy, ceramics, and fuel technology in their undergraduate and especially in their graduate programs. These courses are integrated with the chemical engineering courses, making use of many of the unit processes and unit operation concepts common to these categories.

The department, along with the other departments of the College of Engineering and the School of Mines, is a part of the Engineering Experiment Station. The combined facilities of the department and the Station are available for investigation and research. The greater number of projects are so selected that graduate students, and to some extent undergraduate students, participate in the program. The work of the Engineering Experiment Station thus is part of the educational program.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
G. 1—Engineering Lectures	Cr.	Chem. 2—Inorganic Chem.	4
Chem. 1—Inorganic Chem.	4	English 2—Comp. and Rhet.	3
English 1—Comp. and Rhet.	3	Math. 5—Analytical Geom.	4
History 53—Modern America	3	M.E. 20—Engineering Drawing	3
Math. 3—College Algebra	3	Mil. Sci. 2 or Air Sci. 2	2
Math. 4—Plane Trig.	3	Phys. Ed. 2	1
Mil. Sci. 1 or Air Sci. 1	2		
Phys. Ed. 1	1		
	19		17

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Ch.E. 140—Ch.E. Calculations	2	English 126—Adv. Composition	3
Chem. 15—Quant. Analysis	3	M. 101—Statics	3
Math. 107—Calculus	4	Math. 108—Calculus	4
Mil. Sci. 3 or Air Sci. 3	2	Mil. Sci. 4 or Air Sci. 4	2
Phys. 111—General Physics	5	Phys. 112—General Physics	5
Speech 11—Public Speaking	3		
	19		17

THIRD YEAR CHEMICAL ENGINEERING

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Ch.E. 205—Principles of Ch.E.	5	Ch.E. 207—Principles of Ch.E.	5
Chem 233—Organic Chem.	4	Chem. 238—Organic Chem.	4
Chem. 260—Physical Chem.	4	Chem. 261—Phys. Chem.	4
Econ. 1—Prin. of Economics	3	Econ. 2—Prin. of Economics	3
Math. 240—Differential Eq.	3	M. 102—Mech. of Materials	3
	19		19

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Ch.E. 211—Chem. Eng'g Lab.	2	Ch.E. 212—Chem. Eng'g Lab.	2
Ch.E. 234—Chem. Technology	2	Ch.E. 238—Electrochem. & Corrosion	2
Ch.E. 242—Ch.E. Thermodynamics	3	Ch.E. 243—Ch.E. Thermodynamics	3
Ch.E. 272—Ch.E. Design	3	Ch.E. 250—Phys. Met.	3
E.E. 105—Elec. Fundamentals	4	Ch.E. 273—Ch.E. Design	3
G. 100—Inspection Trip	Cr.	*Electives	6
*Electives	5		
	19		19

*At least 6 of the 11 hours must be selected from the following subjects: English, Language (6 hr. minimum), Psychology, History, Political Science, Sociology, Economics, Commerce.

Nuclear Engineering

Admission. The program for the Degree of Master of Science in Nuclear Engineering is administered by the Department of Chemical Engineering. The work offered in the department has been approved by the Atomic Energy Commission for recipients of Atomic Energy Commission Special Fellowships in Nuclear Energy Technology.

Before being admitted to candidacy for the Degree of Master of Science in Nuclear Engineering, the prospective student must be admitted to the Graduate School. Applicants with the Degree of Bachelor of Science in one of the major branches of engineering from an accredited engineering department will be admitted, provided they have had a course in differential equations.

Courses. A fairly rigid curriculum is followed for the M.S.N.E. Degree. This is necessary in view of the fact that students of diverse backgrounds may be admitted for this degree.

The required courses for the degree are: Physics 225, 226, 287, 288; Ch.E. 390, 391, 392, 393; and a research thesis. In addition, six hours of related elective courses are required. Approved electives include Math. 357, 358; Ch.E. 306 and 344. Other elective courses may be taken, subject to the approval of the candidate's adviser.

Facilities. The specialized facilities for nuclear engineering will include a water-moderated exponential reactor, electronic nuclear reactor simulator, graphite sigma pile, and a modern radioisotopes laboratory for instruction and research. The various departments in the College of Engineering are also well equipped for a variety of research projects which are applicable to the field of nuclear technology. Plans for the future include a multicurie radiation facility and a training and research reactor. West Virginia University is located approximately 80 miles from Pittsburgh, Pa., site of the Shippingport Nuclear Power Plant, and 4 miles from the Appalachian Experiment Station of the U. S. Bureau of Mines, which is active in a developmental program on a high-temperature gas-cooled reactor.

CURRICULUM IN CIVIL ENGINEERING

Degree: Bachelor of Science in Civil Engineering

The civil engineering curriculum has been planned to give a broad coverage of those general and scientific subjects that form the foundation of all engineering and special training in the civil engineering field. General subjects are included in most of the semesters of the four-year program. These are intended to improve and enrich

the student's understanding of man's relation to man and they have been classified as communications (English, public speaking, foreign languages), humanities (history, philosophy, psychology), and social consciousness courses (economics, political science, and sociology). In addition to drawing, physics, and mathematics, which form the roots of any engineering course, the student investigates such fields as chemistry and geology which give a breadth of scientific training.

A thorough study of the fundamentals of plane and topographic surveying is scheduled for the second year and the following summer. During this summer, the student spends five weeks at Camp R. L. Morris near Terra Alta, West Virginia, concentrating on field surveys. Training at the professional level in photogrammetry may be elected during the fourth year to round out this work.

Courses in mechanics, thermodynamics, and electrical engineering furnish breadth of training in engineering subjects and depth of training comes from professional work in highway, railway, structural, sanitary, and hydraulic engineering, any of which may be the specialty of the civil engineer.

The civil engineering professional field is too broad to be covered thoroughly in a four-year course. For this reason, primary emphasis is placed on engineering fundamentals. A degree of professional specialization is still possible, however. In addition to the sanitary engineering option on page 294, the student, during his last year, may select specialized courses in the fields of transportation, water power, or photogrammetry. If he prefers, he may elect to prepare a thesis or may elect upper-division courses from other engineering departments.

The State Road Commission of West Virginia and the Civil Engineering Department offer a cooperative program in which the student divides his time between formal education and practical experience. One or more semesters are spent each year pursuing the regular Civil Engineering curriculum in school and for the remainder of the time the trainee is employed by the State Road Commission where all possible advantage is taken of the engineering theory which the student has mastered so far.

The student's pace through the curriculum is determined primarily by his financial position. Upon successful completion of the program, the regular B.S.C.E. degree is granted and the trainee is offered an engineering position with the State Road Commission.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 1—Inorganic Chem.	4	Chem. 2—Inorganic Chem.	4
English 1—Comp. and Rhet.	3	English 2—Comp. and Rhet.	3
G. 1—Engineering Lectures	Cr.	Hist. 53—Modern America	3
Math. 3—College Algebra	3	Math. 5—Analytical Geom.	4
Math. 4—Plane Trig.	3	M.E. 26—Descriptive Geom.	2
M.E. 20—Engineering Drawing	3	Mil. Sci. 2 or Air Sci. 2	2
Mil. Sci. 1 or Air Sci. 1	2	Phys. Ed. 2	1
Phys. Ed. 1	1		
	19		19

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
C.E. 2—Surveying	4	C.E. 3—Route Surveying	2
Geol. 1—Gen. Geology	3	M. 101—Statics	3
Geol. 2—Geol. Lab.	1	Math. 108—Calculus	4
Math. 107—Calculus	4	Mil. Sci. 4 or Air Sci. 4	2
Mil. Sci. 3 or Air Sci. 3	2	Phys. 112—General Physics	5
Phys. 111—General Physics	5	Speech 11—Public Speaking	3
	19		19

SUMMER SESSION, CIVIL ENGINEERING

C.E. 104—Summer Surveying (five weeks) 5

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
C.E. 105—Highway Engineering	4	C.E. 106—Railway Engineering	3
Econ. 1—Prin. of Economics	3	C.E. 115—Fluid Mechanics	3
English 126—Adv. Comp.	3	C.E. 116—Fluid Mech. Lab.	1
M. 102—Mech. of Materials	3	C.E. 121—Structural Analysis	4
M. 104—Kinetics	3	C.E. 140—Contracts and Specifications	2
M.E. 121—Thermodynamics	3	Econ. 2—Prin. of Economics	3
		M. 103—Mech. of Materials	3
	19		19

FOURTH YEAR

C.E. 123—Structural Design	3	C.E. 120—Engineering Materials	2
C.E. 130—Water Supply & Sewerage	5	C.E. 204—Advanced Structures	3
E.E. 105—Electrical Fundamentals	4	C.E. 205—Soil Engineering	3
G. 100—Inspection Trip	Cr.	C.E. 206—Reinforced Concrete	3
Non-Tech. Elective	3	Non-Tech. Elective	3
Tech. Elective	2	Tech. Elective	4
	17		18

Six hours of foreign language may be taken instead of Speech 11 and English 126. Non-technical electives must include 3 hours from each of the following groups:

Group 1—History, Psychology, Philosophy
Group 2—Economics, Political Science, Sociology

RECOMMENDED TECHNICAL ELECTIVES

C.E. 124—Thesis	2-4	C.E. 211—Geodesy	3
C.E. 200—Water Power Eng'g	2	E.E. 106—Electrical Machinery	4
C.E. 209—Highway Mat'ls Lab.	2	E.M. 215—Industrial Safety Eng'g.	2
C.E. 210—Photogrammetry	2	I.E. 286—Eng'g Economy	2
		Math. 240—Differential Equations	3

Civil Engineering: Sanitary Option

Civil Engineering students who desire to specialize in sanitary engineering follow the regular curriculum through the five-week summer surveying course, except they will take Chemistry 15, Quantitative Analysis, 3 hours, in the second semester of the second year, instead of Speech 11. The remainder of the curriculum for the sanitary engineering option is given below.

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 233—Organic Chem.	4	Bact. 141—Gen. Bacteriology	4
Econ. 1—Prin. of Economics	3	C.E. 115—Fluid Mechanics	3
M. 102—Mech of Materials	3	C.E. 122—Structural Eng'g	3
M. 104—Kinetics	3	Econ. 2—Prin. of Economics	3
Non-Tech. elective	3	English 126—Adv. Composition	3
Speech 11—Public Speaking	3	M. 103—Mech. of Materials	3
	19		19

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
C.E. 116—Fluid Mech. Lab.	1	C.E. 105—Highway Engineering	4
C.E. 117—Municipal Engineering	2	C.E. 120—Engineering Materials	2
C.E. 130—Water Supply and Sewerage	5	C.E. 140—Contracts and Specifications	2
C.E. 202—Water Purification	3	C.E. 203—Sewage Disposal	3
E.E. 105—Electrical Fundamentals	4	C.E. 205—Soil Engineering	3
G. 100—Inspection Trip	Cr.	C.E. 206—Reinforced Concrete	3
Non-tech. elective	3		
	18		17

Six hours of foreign language may be taken instead of Speech 11 and English 126.
Non-technical electives must include 3 hours from each of the following groups:
Group 1—History, Psychology, Philosophy
Group 2—Economics, Political Science, Sociology

CURRICULUM IN ELECTRICAL ENGINEERING

Degree: Bachelor of Science in Electrical Engineering

The course in electrical engineering has been developed for the purpose of giving the student who completes the course general training in engineering fundamentals and broad training in the field of electrical engineering. Special training in the electrical power field or the communications field is available as electives in the senior year.

In the first two years of electrical engineering, the work is limited mostly to those subjects which are essential as preparatory courses for the more technical courses in the third and fourth years.

During the third year, fundamental courses in electrical engineering are introduced. An additional mathematics course of special importance to electrical engineering is included, as well as other fundamental engineering subjects.

In the fourth year the curriculum is made up almost entirely of courses in electrical engineering. During the year, the student elects a group of courses pertaining to the field of communications or to the field of electric power.

It will be observed that for many of the courses scheduled in this curriculum, the work of the classroom is supplemented by concurrent work in the laboratory or drafting room. By means of experimental work in the laboratory, followed with well-written reports and problems in the design of electrical apparatus, the student acquires a clearer conception of the facts and principles discussed in the classroom and also a working knowledge of the subject matter. All of this is essential if he is to become a successful electrical engineer.

In order that students may receive a broader training in the field of humanities, six hours of non-technical elective subjects are required. The non-technical electives should be selected from the subjects listed below, following the curriculum.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 1—Inorganic Chem.	4	Chem. 2—Inorganic Chem.	4
English 1—Comp. and Rhet.	3	English 2—Comp. and Rhet.	3
G. 1—Engineering Lectures	Cr.	Math. 5—Analytical Geom.	4
Hist. 53—Mod. America or M.E. 20—Eng'g Drawing	3	M.E. 20—Eng'g Drawing or Hist. 53—Mod. America	3
Math. 3—College Algebra	3	Mil. Sci. 2 or Air Sci. 2	2
Math. 4—Plane Trig.	3	Phys. Ed. 2	1
Mil. Sci. 1 or Air Sci. 1	2		
Phys. Ed. 1	1		
	19		17

SECOND YEAR ELECTRICAL ENGINEERING

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
E.E. 10—Intro. Elect. Eng'g	2	E.E. 120—Elect. & Magnetic Circuits	3
English 126—Adv. Comp.	3	E.E. 121—Elect. Meas. Lab.	2
Math. 107—Calculus	4	Math. 108—Calculus	4
Mil. Sci. 3 or Air Sci. 3	2	Mil. Sci. 4 or Air Sci. 4	2
Phys. 111—General Physics	5	Phys. 112—General Physics	5
Speech 11—Public Speaking	3	M. 101—Statics	3
	19		19

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Econ. 1—Prin. of Economics	3	Econ. 2—Prin. of Economics	3
E.E. 125—A.C. Circuits	4	E.E. 132—Electromechanical Devices	4
E.E. 126—Elect. & Magnetic Fields	3	E.E. 250—Electronics	3
Math. 253—Adv. Applied Math.	3	E.E. 284—Transients	3
M. 104—Kinetics	3	M. 102—Mech. of Materials	3
Elect. (Non-tech.)	3	Elect. (Non-tech.)	3
	19		19

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
E.E. 133—Electromechanical Devices	4	C.E. 115—Fluid Mechanics	3
E.E. 252—Electronics	3	E.E. 287—Ind. Electronics & Control	3
E.E. 260—Transmission Lines	3	Elect. (Free)	3
E.E. 262—Elect. Lab.	2	Elect. (Tech.)	9
M.E. 121—Thermodynamics of Eng'g	3		
Elect. (Tech.)	3		
G. 100—Inspection Trip	Cr.		
	18		18

Non-technical electives shall be selected from the following subjects: Economics, Management, a Language (6 hr. minimum), History, Humanities, Philosophy, Political Science, Psychology, Sociology.

Six hours of technical electives shall be selected from the electrical engineering courses in the 200 series.

The remaining six hours of technical electives shall be selected from the following: Advanced Mathematics or Physics, E.E. 104, M.E. 125, or any engineering course in the 200 series.

CURRICULUM IN INDUSTRIAL ENGINEERING

Degree: Bachelor of Science in Industrial Engineering

Industrial Engineering is a relatively new branch of engineering. The industrial engineer must combine his knowledge of engineering principles with everyday manufacturing operations in order that the product be produced in sufficient quantities at minimum cost. The field of the industrial engineer is that of the process, production, and cost expert engaged in planning, organizing, improving, managing, and operating the various procedures in producing all kinds of manufactured products.

The purpose of the curriculum in industrial engineering is to provide training for those students who are interested in the managerial and technical activities of the engineering field. Industrial engineering is, basically, engineering with its foundation in mathematics and the sciences, with emphasis upon the human factors and the economic aspects which are essential in engineering work.

There are many new problems challenging industry. Industrial engineers are being called upon more and more to answer this challenge. Their job is to coordinate the man, machines, and methods into a smooth-running organization.

The first and second years are devoted to basic courses in English, mathematics, chemistry, physics, statics, mechanics of materials, drafting, and shop practice which are essential to the more technical courses which follow in the third and fourth years.

Industrial engineering includes motion and time study analysis for work simplification and standardizations, control of quality and quantity of production through management in such activities as job evaluation and wage incentives.

The laboratories provide the student with practice in the various phases of industrial engineering. Facilities are also available for research and development of methods and procedures for manufacture and control.

Besides giving the engineering fundamentals, industrial engineering provides for basic course work in the fields of mechanical and electrical engineering. The studies provide for intensive training in the various branches of industrial engineering. The specialization courses starting in the junior year are planned for progressive instruction in the principles and techniques of industrial engineering as practiced in industry.

Statistics as a tool in industrial engineering has been increasing steadily, its greatest contribution in recent years has been in the control of quality of manufactured products by statistical method. Recent additions to the curriculum prepare students for more advanced statistical analysis, as may be applied to production and costs, as well as research. Among the newest courses, which advanced and graduate students may choose to investigate, are the concepts and theories of Operations Research, such as linear programming, queuing, theory of games, and statistical inventory control.

The department anually sponsors an Industrial Engineering Conference. Students are encouraged to attend the meetings, and thus are offered an opportunity of hearing opinions expressed by men of national recognition.

West Virginia has many types of industries in which industrial engineers may be profitably employed. Greater efficiency in operations as well as the expansion of industrial activities in the State will maintain the need for graduates in this ever developing field.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 1—Inorganic Chem.	4	Chem. 2—Inorganic Chem.	4
English 1—Comp. and Rhet.	3	English 2—Comp. and Rhet.	3
G. 1—Engineering Lectures	Cr.	I.E. 31—Prin. of Ind. Eng'g	2
Hist. 53—Modern America or M.E. 20—Engineering Drawing	3	Math. 5—Analytical Geom.	4
Math. 3—College Algebra	3	M.E. 20—Engineering Drawing or Hist. 53—Modern America	3
Math. 4—Plane Trig.	3	Mil. Sci. 2 or Air Sci. 2	2
Mil. Sci. 1 or Air Sci. 1	2	Phys. Ed. 2	1
Phys. Ed. 1	1		
	19		19

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Econ. 1—Prin. of Economics	3	Econ. 2—Prin. of Economics	3
I.E. 40—Mechanisms	1	English 126—Adv. Comp.	3
Math. 107—Calculus	4	M. 101—Statics.	3
Mil. Sci. 3 or Air Sci. 3	2	Math. 108—Calculus	4
Phys. 111—Gen. Physics	5	Mil. Sci. 4 or Air Sci. 4	2
Speech 11—Public Speaking	3	Phys. 112—Gen. Physics	5
	18		20

THIRD YEAR INDUSTRIAL ENGINEERING

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Econ. 115—Labor Problems	3	E.E. 105—Elect. Fundamentals	4
I.E. 100—Manufacturing Processes	3	I.E. 142—Production Control	3
I.E. 144—Eng'g Statistics	3	I.E. 151—Acct. for Engineers	4
I.E. 160—Work Meas. & Methods Eng'g	4	I.E. 286—Eng'g Economy	2
M. 102—Mech. of Materials	3	I.E. 290—Ind. Statistics	2
M.E. 121—Thermodynamics	3	M. 104—Kinetics	3
		M.E. 122—Mechanical Lab.	1
	19		19

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
C.E. 115—Fluid Mechanics	3	E.E. 205—Industrial Electronics	3
Ch.E. 250—Physical Metallurgy	3	I.E. 214—Adv. Analysis of Engr. Data	3
G. 100—Inspection Trip	Cr.	I.E. 250—Elec. Comp. Data Processing	3
I.E. 110—Tool Design	3	I.E. 292—Plant Layout & Design	3
I.E. 288—Job Eval. & Wage Inc.	3	Psych. 115—Psychology of Ind.	3
I.E. 294—Std. Mfg. Costs	3	Elective	2
Elective	3		
	18		17

RECOMMENDED ELECTIVES

Econ. 114—Corporation Finance	3	I.E. 211—Ind. Eng'g Prob.	2
E.E. 106—Elect. Machinery	4	I.E. 254—Introd. to Operations Research	3
E.M. 215—Ind. Safety Eng'g	2	M.E. 250—Heat, Vent. & Air Cond.	3
G. 190—Law for Engineers	3		

CURRICULUM IN MECHANICAL ENGINEERING

Degree: Bachelor of Science in Mechanical Engineering

The Mechanical Engineering program is designed to develop the student, mentally, to deal effectively with general engineering problems. Adequate courses in the humanities, social consciousness, and communications are provided throughout the four years, to insure the development of a well-rounded individual who is capable of assuming a responsible position in society.

The first and second years are primarily devoted to the basic preparatory courses essential to the more technical courses which follow in the third and fourth years.

Basic engineering drawing courses provide a contact with engineering work during the first year and are given so as to thoroughly familiarize the student with graphical communication. Theoretical and laboratory instruction are provided to give a fundamental knowledge of machine tools and production methods.

Courses in mechanisms, statics, mechanics of materials, kinetics, dynamics, machine design, thermodynamics, and other technical courses provide an opportunity to apply the basic fundamental mathematics, physics, and chemistry. A sufficient amount of electrical engineering is given in the third and fourth years to enable the student to handle engineering operations involving electrical problems. The courses in thermodynamics provide a fundamental background in heat power.

Well-equipped laboratories (See "Buildings and Equipment," page 281) are provided to supplement classroom instruction and to furnish a means of teaching experimental methods. The student is provided with the opportunity to observe phenomena and seek explanations, to test theories, to note contradictions, and interpret results. An opportunity is also provided for the student to become familiar with the test codes of recognized national societies.

Electives are provided in the fourth year that enable the student to specialize in a technical field and to acquire a broad cultural background.

The curriculum is highly technical, yet sufficiently broad to meet the requirements of industry and society. The young graduate ordinarily enters a graduate apprenticeship in a manufacturing or operating organization, where opportunity is

provided for his development in research, design, operation, sales, or administration, depending upon his interests and his aptitudes.

A student who desires a broader training in the liberal arts than is provided in the regular four-year curriculum may take a combined bachelor of science and mechanical engineering course. By a careful selection of electives and proper sequence of registration, both degrees may be earned in five years.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 1—Inorganic Chem.	4	Chem. 2—Inorganic Chem	4
English 1—Comp. and Rhet.	3	English 2—Comp. and Rhet.	3
Math. 3—College Algebra	3	Math. 5—Analytical Geom.	4
Math. 4—Plane Trig.	3	M.E. 26—Descriptive Geom.	2
M.E. 20—Engineering Drawing	3	Hist. 53—Modern America	3
Mil. Sci. 1 or Air Sci. 1	2	Mil. Sci. 2 or Air Sci. 2	2
Phys. Ed. 1	1	Phys. Ed. 2	1
G. 1—Engineering Lectures	Cr.		
	19		19

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 126—Adv. Comp.	3	Speech 11—Public Speaking	3
Math. 107—Calculus	4	Math. 108—Calculus	4
Phys. 111—Gen. Phys.	5	Phys. 112—Gen. Phys.	5
M.E. 39—Mechanism	2	M. 101—Statics.	3
I.E. 100—Man'fg Processes	3	Mil. Sci. 4 or Air Sci. 4	2
Mil. Sci. 3 or Air Sci. 3	2		
	19		17

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Econ. 1—Prin. of Economics	3	Econ. 2—Prin. of Economics	3
E.E. 105—Electrical Fundamentals	4	E.E. 106—Electrical Machinery	4
Math. 253—Advanced Applied Math.	3	M.E. 112—Kinematics & Dynamics of Mach.	3
M.E. 120—Eng'g Thermodynamics	3	M.E. 125—Eng'g Thermodynamics	3
M. 102—Mechanics of Mat'ls.	3	M. 103—Mech. of Materials	3
M. 104—Kinetics	3	M.E. 132—Mechanical Lab.	2
	19		18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Ch.E. 250—Physical Metallurgy	3	E.E. 205—Industrial Electronics	3
C.E. 115—Fluid Mechanics	3	G. 190—Law for Engineers	3
M.E. 113—Design of Mech. Members	3	M.E. 203—Machine Design	3
M.E. 228—Engineering Lab.	1	Tech. Electives	6
Pol. Sci. 101—Intro. to Gov't	3	Non-tech Electives	3
G. 100—Inspection Trip	Cr.		
Non-tech. Elective	3		
Technical Elective	3		
	19		18

NOTE: Students taking Advanced Military, either Army or Air Force, should attend Summer School at the end of the second year and enroll in Economics 1—3 hr., Economics 2—3 hr., and non-technical elective—6 hr.

ELECTIVES

Non-technical electives must be selected from psychology, philosophy, sociology, or foreign languages (6 hr. minimum).

Technical electives may be selected from M.E. 124, advanced mathematics, advanced physics, or engineering courses in the 200 series.

THE SCHOOL OF MINES

CURRICULA

Degree: Bachelor of Science in Engineering of Mines

1. Four-year curricula leading to the degree of Bachelor of Science in Engineering of Mines, with options in coal mining engineering and in petroleum and geological engineering.

2. Combined science and engineering curricula extending over five or more years leading to the degrees of Bachelor of Science and Bachelor of Science in Engineering of Mines.

Mining Engineering deals with the exploitation, extraction, marketing, and utilization of minerals from within the earth. The role of the mining engineer is quite diversified and there are opportunities for technical specialization in prospecting, development, production, beneficiation, utilization, and marketing. Therefore, the mining engineer must be well trained in the fields of mining and geology and also in the principles of civil, electrical, and mechanical engineering as applied to the mining industry. With the present trend toward the use of engineers in industrial management and administrative positions, the mining engineer's training must also include economics, business, personnel management, and the various humanities.

The basic curricula in mining engineering are devoted to thorough training in mathematics, physics, chemistry, geology, English, and economics, together with engineering drawing and surface and underground surveying. Beginning with the third year, provisions are made for specialization in either of the two options.

Summer employment is usually arranged for students desiring it, and such work is encouraged.

Mining Engineering: Coal Mining Engineering Option

In this option, the professional curriculum includes study of the geology, classification, and analysis of coals and the engineering principles of blasting, materials handling, transportation, hoisting, water control, surface and underground systems of mining, roof control, ventilation, coal preparation, and structural design. Special consideration is given to the application of mining machinery with particular attention to power transmission and electric and hydraulic control systems.

Special courses in the design of surface and underground mining installations give the students opportunity for expression of the engineering principles developed in preceding phases of the work. The student receives an introduction to the management and social aspects through courses devoted to economic, social, governmental, labor, financial, and safety problems incident to the operation of a mining enterprise.

For those desirous of further or alternate specialization, electives in the fields of metal mining, mineral beneficiation, geology, fuel technology, mine power applications, metallurgy, industrial engineering, and mining economics are offered.

Local coal fields, mines, and preparation plants are used extensively for experimental, instructional, and field work.

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 1—Inorganic Chem.	4	Chem. 2—Inorganic Chem.	4
English 1—Comp. and Rhet.	3	English 2—Comp. and Rhet.	3
G. 1—Engineering Lectures	Cr.	Math. 5—Analytical Geom.	4
M.E. 20—Engineering Drawing	3	M.E. 26—Descriptive Geometry	2
Math. 3—College Algebra	3	Hist. 53—Modern American History	3
Math. 4—Plane Trig.	3	Mil. Sci. 2 or Air Sci. 2	2
Mil. Sci. 1 or Air Sci. 1	2	Phys. Ed.	1
Phys. Ed. 1	1		
	19		19

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 126—Adv. Comp.	3	Math. 108—Calculus	4
Math. 107—Calculus	4	Phys. 112—General Physics	5
Geol. 1—Physical Geology	3	M. 101—Statics	3
Chem. 10—Quantitative Analysis	2	E.M. 103—Mine Surveying	3
Mil. Sci. 3 or Air Sci. 3	2	E.M. 106—Mineralogy	2
Phys. 111—General Physics	5	Mil. Sci. 4 or Air Sci. 4	2
	19		19

SUMMER

E.M. 102—Summer Mine Surveying (six weeks) 5

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
E.E. 105—Electrical Fundamentals	4	E.E. 106—Electrical Machinery	4
Econ. 1—Prin. of Economics	3	Econ. 2—Prin. of Economics	3
M. 102—Mechanics of Materials	3	M. 103—Mechanics of Materials	3
E.M. 111—Introductory Mining	2	E.M. 212—Advanced Mining	3
E.M. 107—Mining Methods	4	M.E. 121—Thermodynamics of Eng'g	3
Speech 11—Public Speaking	3	M. 104—Kinetics	3
	19		19

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
C.E. 122—Structural Engineering	3	E.M. 223—Mine Management	3
C.E. 115—Fluid Mechanics	3	E.M. 221—Mine Design	3
E.M. 213—Mine Ventilation	3	E.M. 222—Mine Equip. & Mach.	3
E.M. 217—Coal Preparation	4	E.M. 215—Ind. Safety Eng'g	2
E.M. 220—Mine Design	2	G. 190—Law for Engineers	3
Electives	3	Non. Tech. Electives	3
		G. 100—Inspection Trip	Cr.
	18		17

RECOMMENDED TECHNICAL ELECTIVES

E.M. 230—Elem. of Geophysical Prosp.	3	Ch.E. 250—Physical Metallurgy	3
E.M. 208—Geol. Surveying	1	Ch.E. 281—Fuel Tech. (Solid Fuels)	2
E.M. 214—Mine Valuation	3	Ch.E. 282—Fuel Tech. (Gaseous and Liquid Fuels)	2
E.M. 218—Adv. Mineral Preparation	3	C.E. 206—Reinforced Concrete	3
E.M. 219—Adv. Mining Methods for Vein Deposits	3	C.E. 205—Soil Engineering	3
E.M. 244—Mining Eng'g. Problems 1 to	3	M. 200—Adv. Mech. of Materials	3
E.M. 226—Adv. Mining Equip. Appl.	3	I.E. 144—Engineering Statistics	3
E.M. 227—Mine Power Applications	2	I.E. 160—Work Meas. & Methods Eng'g	4
E.M. 228—Mine Equipment and Machinery Controls	3	Geol. 151—Structural Geology	3 or 4
Manage. 216—Personnel Management	3	Geol. 257—Coal Geology	4
		Econ. 115—Labor Problems	3

Non-technical electives selected must be approved by the student's adviser.

Mining Engineering: Petroleum and Geological Engineering Option

This option is planned to meet the needs of the student specializing in petroleum engineering and for those especially interested in the geological aspects of mining engineering.

The petroleum engineer must be well versed in the identification and interpretation of geologic features related to the occurrence and recovery of oil and natural gas. The study of geology is emphasized in the petroleum and geological curriculum and

is supplemented by thorough treatment of the engineering principles related to the development, production, transportation, marketing, and utilization of oil and natural gas. Local production and gas storage fields, secondary recovery projects, compressor stations, and refineries provide excellent opportunity for field study, and the petroleum engineering laboratories are particularly well equipped.

There is a growing demand for the mining geologist with thorough training in the fundamentals of engineering in general and mining engineering in particular who is especially qualified to analyze the geologic features of a mining property, as related to valuation and development methods. Opportunities for the mining geologist are offered by mining companies, equipment manufacturers, the various state and federal agencies, and by business organizations having a secondary interest in mineral resources, such as investment houses, railroads, and chemical producers.

The fundamentals of engineering are combined with the study of geology throughout the curriculum. The geology courses prescribed for the petroleum program treat the origin, properties, accumulation, and geographic distribution of oil and natural gas. Related courses in oil and gas production, core analysis, oil refining, and petroleum property management deal with the chemical and physical properties of oil and natural gas, their extraction, and subsequent processing, and the valuation of petroleum properties and marketing.

An introductory course in geophysical methods as applied to prospecting for oil and natural gas included in the basic curriculum acquaints the student with the equipment, methods, and calculations used, and gives an opportunity for field practice with the various instruments and devices employed. The problems of natural gas measurement and distribution are particularly stressed, and special laboratories for that phase of the work are provided. The fundamentals of mining engineering are offered, beginning with the third year of study for students interested in the mining geology aspects.

Supplemental courses in English, public speaking, history, economics, and business law provide for a well-balanced educational program that equips the graduate for engineering careers in both technical and administrative fields.

FIRST YEAR PETROLEUM AND GEOLOGICAL ENGINEERING

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 1—Inorganic Chem.	4	Chem. 2—Inorganic Chem.	4
English 1—Comp. and Rhet.	3	English 2—Comp. and Rhet.	3
G. 1—Engineering Lectures	Cr.	Math. 5—Analytical Geom.	4
M.E. 20—Engineering Drawing	3	M.E. 26—Descriptive Geom.	2
Math. 3—College Algebra	3	Hist. 53—Modern American History	3
Math. 4—Plane Trig.	3	Mil. Sci. or Air Sci. 2	2
Mil. Sci. or Air Sci. 1	2	Phys. Ed. 2	1
Phys. Ed. 1	1		
	19		19

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Phys. 111—General Physics	5	Phys. 112—General Physics	5
Math. 107—Calculus	4	Math. 108—Calculus	4
Chem. 15—Quantitative Analysis	3	E.M. 106—Mineralogy	2
Geol. 1—General Geology	3	M. 101—Statics	3
Geol. 2—General Geology Lab.	1	E.M. 103—Mine Surveying	3
Mil. Sci. 3 or Air Sci. 3	2	Mil. Sci. 4 or Air Sci. 4	2
	18		19

SUMMER

E.M. 102—Summer Mine Surveying (six weeks) 5

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Chem. 233— Organic Chem.	4	E.M. 204—Oil & Gas Production	4
Geol. 3—Historical Geology	3	Econ. 2—Prin. of Economics	3
Geol. 4—Historical Geology Lab.	1	Speech 11—Public Speaking	3
Econ. 1—Prin. of Economics	3	M. 104—Kinetics	3
English 126—Advanced Composition	3	M. 103—Mechanics of Materials	3
M. 102—Mechanics of Materials	3	G. 190—Law for Engineers	3
E.M. 201—Oil Field Development	2		
	19		19

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
E.M. 216—Petroleum Eng'g Design	2	C.E. 115—Fluid Mechanics	3
Ch.E. 286—Petroleum Technology	2	E.M. 232—Petroleum Reservoir Eng'g	2
E.E. 105—Elements of E.E.	4	Geol. 272—Petroleum Geology	3
M.E. 121—Thermodynamics	3	E.M. 205—Gas Measurement Eng'g	2
Geol. 151—Structural Geology	3	Geol. 161—Field Geology	3
Electives	3	E.M. 208—Geological Surveying	1
		E.M. 203—Petroleum Property Val. and Management	2
		Electives (Non-tech.)	3
		G. 100—Inspection	Cr.
	17		19

RECOMMENDED ELECTIVES (PETROLEUM ENG'G)

E.M. 207—Introductory Seismology	1	Ch.E. 282—Fuel Tech. (Gaseous and Liquid Fuels)	2
E.M. 230—Elem. of Geophysical Prosp.	3	Geol. 170—Nat. Resources and Geology of W. Va.	2 or 3
E.M. 231—Geophysical Prosp. Lab.	1	Geol. 172—Econ. Geol. (Non-Met.)	3
E.M. 212—Adv. Mining	3	Geol. 271—Econ. Geol.: Ore Deposits	3
E.M. 214—Mine Valuation	3	C.E. 206—Reinforced Concrete	3
E.M. 215—Ind. Safety Eng'g	2	M.E. 270—Industrial Lubrication	3
E.M. 219—Adv. Mining Methods for Vein Deposits	3	Econ. 115—Labor Problems	3
Ch.E. 250—Physical Metallurgy	3	M. 200—Adv. Mech. of Materials	3
E.M. 224—Mining Eng'g Problems	1 to 3		
Ch.E. 281—Fuel Tech. (Solid Fuels)	2		

Non-technical electives selected with approval of the student's adviser.

FIVE-YEAR CURRICULA

Degree: *Bachelor of Science in conjunction with a degree in engineering or mining engineering.*

These curricula are designed to meet the needs of students who wish to receive a broader training than is provided in the four-year program. They also enable the student to take lighter schedules than are required in the four-year curricula.

(A) Requirements for the degree of Bachelor of Science, to be conferred at the end of the fourth year, where the student's grade-point average is 2.5 or over, or at the time of the conferring of the engineering degree where the grade-point average is below 2.5.

(1) The requirements of the first three years of any four-year engineering curriculum.

(2) a. Twelve semester hours of one foreign language, where no secondary school entrance credits have been allowed, or
b. Six semester hours at intermediate level, where two units of entrance credits have been allowed in the same foreign language.

(3) Electives from the following groups, amounting to six semester hours where (2a) applies and twelve semester hours where (2b) applies.

a. Not more than three hours each of English, history, and speech.
b. Not more than six hours each in any one or more of the following groups: foreign language (other than specified above); journalism; commerce, political science; and philosophy, psychology, and sociology.

(B) Requirements for the Bachelor of Science degree in engineering or mining engineering, to be conferred on completion of the work of the fifth year.

GRADUATE CURRICULA

Graduate work leading to the degree of Master of Science in Engineering is offered in all departments. In certain departments courses leading to the degree of Doctor of Philosophy are also offered. The student who plans to pursue graduate work is directed to the courses as outlined in the Graduate School section of the University *Catalog,* or in the *Announcements of the Graduate School.* Seniors within ten semester hours of graduation may petition the Dean of the Graduate School and receive credit towards a Master's degree for work taken beyond the requirements for a Bachelor's degree.

SPECIAL ENGINEERING CURRICULA

1. *Elective Groups for Students in Other Colleges.* Candidates for degrees other than engineering degrees, and special students in any department of the University, are permitted to elect subjects in the College of Engineering and the School of Mines, provided, in each case, they have had the subjects specified as prerequisites. Students who wish to take a general classical or scientific course of study before taking the engineering curriculum are advised to carry their mathematics as far as called for by the engineering curriculum, and to take some elective work in the College of Engineering.

2. *Partial curriculum.* Students who have not the time or are otherwise unable to take the full curriculum will be allowed to take a special or partial curriculum, consisting of such studies as they are prepared to take, provided such curriculum shall have been approved by the adviser. (For information as to requirements for admission as special students, see Part I of this *Catalog.*

PROFESSIONAL DEGREES

The University confers the following professional degrees: Aeronautical Engineer (A.E.), Chemical Engineer (Ch.E.), Civil Engineer (C.E.), Electrical Engineer (E.E.), Mechanical Engineer (M.E.), and Engineer of Mines (E.M.).

The professional degree is conferred upon graduates of the College of Engineering and of the School of Mines of West Virginia University on the basis of practical experience and study in absentia, the presentation of a thesis, and oral final examination.

To be eligible, a candidate for a professional degree must have been in active practice of his profession for at least five years since receiving his first degree, and must have been in responsible charge of important work for at least two years.

Application for registration as a candidate for a professional degree should be made not later than October 1 in the year in which the degree is desired. Detailed regulations and registration blanks may be obtained from the Dean of the College of Engineering, or from the Dean of the School of Mines.

COURSES OF INSTRUCTION*

AERONAUTICAL ENGINEERING

Professors SELTZER and HNATIUK; Associate Professor ULRICH.

Undergraduate Division

A.E.

116. AIRCRAFT DETAIL DESIGN. II. 2 hr. PR: M.E. 26. Detail drawing of airplane components. Use of Aircraft Standards and drafting procedures. Development of contoured surfaces and projections. Methods of production and fabrication. 6 hr. lab. Mr. Ulrich

*Courses marked by an asterisk may be taken as undergraduate work by students in other colleges and schools.

201. Elementary Aerodynamics. I. 3 hr. PR: M. 101, Physics 111 or equivalent. Physical properties of air, airfoils, effect of planform, induced drag, parasite drag. Engine characteristics, propellers. Airplane performance at sea level and altitude. 3 hr. rec. Mr. Seltzer

202. Aerodynamics. II. 3 hr. PR: Math. 253, A.E. 201, and/or conc: C.E. 115. Steady flow of incompressible and compressible fluids, dimensional analysis, viscous flow. Stream functions of two dimensional ideal flows, boundary layer theory. 3 hr. rec. Mr. Hnatiuk

203. Applied Aerodynamics. II. 3 hr. PR: A.E. 202. Chordwise and spanwise air-load distribution for plain wings, wings with aerodynamic and geometric twist, wings with deflected flaps, and wings with ailerons deflected. Section induced drag characteristics. 3 hr. rec. Mr. Ulrich

205. Experimental Aerodynamics. II. 2 hr. PR: A.E. 202. Wind tunnel testing methods and equipment and wind tunnel boundary corrections. Experiments include: Yaw characteristics of Pitot-static tubes, pressure distribution on wings and circular cylinders, boundary layer determination, determination of wind tunnel turbulence, force tests of wings and airplane models, stability and performance determination and corrections for scale effect. 1 hr. lec., 3 hr. lab. Mr. Seltzer

207. Aerodynamics Design. I. 3 hr. PR: A.E. 209. Preliminary design of aircraft. Inboard profiles, design, weight and balance calculations; three view drawings. Airplanes are designed to specification with respect to performance and stability. 1 hr. lec., 6 hr. lab. Staff

208. Flight Testing. I, II. 2 hr. PR: A.E. 209. Flight test theory and practice. Data on stability and performance taken in Cessna 182 airplane. Flight test data reduction practice. 1 hr. lec., 3 hr. lab. Mr. Ulrich

209. Aircraft Performance and Stability. II. 4 hr. PR: A.E. 201. Effect of superchargers and constant speed propellors on airplane performance. Performance analysis by chart methods. Gas turbine-jet airplane performance. Helicopter performance. Aircraft stability and control. 3 hr. lec. Mr. Seltzer

210. Basic Aircraft Structures. II. 3 hr. PR or conc: M. 103. Design of elementary structural forms, truss analysis, and use of thin sheet in aircraft. Deflection by Virtual Work. Least Work and Williot Diagram. 3 hr. lec. Mr. Ulrich

211. Redundant Aircraft Structures. I. 3 hr. PR: A.E. 210 or equivalent. Continuation of A.E. 210. Analysis and design of statically indeterminate structures used in aircraft. Design for achieving high strength/weight ratios. 3 hr. lec. Mr. Ulrich

212. Applied Aircraft Design. II. 3 hr. PR: A.E. 207 and A.E. 211. Structural design of airframe members to C.A.A. requirements. The work is performed on the airplane designed in A.E. 207 during the previous semester. Layout and detail design of specified components are required. 6 hr. lab. Mr. Ulrich

213. Aircraft Structures Laboratory. II. 1 hr. PR: A.E. 211. Strength tests of aircraft materials, airplane center of gravity determination, static test of airplane ribs, bending and torsion of shell structures, compression tests of thin-walled structures. 3 hr. lab. Mr. Ulrich

217. Aircraft Structural Design. I. 3 hr. PR: M. 103. Analysis and detail design of simple fittings, beams, welded structures, forgings, castings. Methods of production and fabrication. 1 hr. lec., 6 hr. lab. Mr. Ulrich

218. Aeroelasticity. I. 3 hr. PR: A.E. 210. The study of vibrating systems of single degree and multiple degrees of freedom, flutter theory and modes of vibration, wing torsional divergence and aileron reversal. 3 hr. lec. Mr. Ulrich

220. Seminar. I, II. 2-6 hr. PR: Senior standing and permission of the instructor. Special material and projects. Staff

222. Aircraft Propulsion. I, II. 2 hr. PR: A.E. 201, M.E. 121, M.E. 229. Propeller theory, constant speed propellers. Basic requirements of propulsion systems, utilization of available energy, fuels, charge handling, combustion, performance, turbine engine characteristics. 2 hr. lec. Mr. Ulrich

223. Aero-Thermodynamics. II. 3 hr. PR: M.E. 221. Application of the fundamental concepts and laws of thermodynamics to problems of gases in motion. The course includes first and second laws of thermodynamics, thermodynamic properties and diagrams, kinetic theory of gases, perfect fluid flows, and dimensional gas dynamics, subsonic and supersonic channel flow, normal and oblique shock waves, method of characteristics, nozzle design. 3 hr. lec. Mr. Hnatiuk

224. Aircraft Reaction Engines. I, II. 3 hr. PR: M.E. 121. In this course four jet powerplants are discussed: gas turbine turbojets and turbopropellers, ramjet, and rocket engines. Primary emphasis is given to the gas turbine engines and components, although a comprehensive analysis of both ramjet and rocket engines is given. The first portion of the course is concerned with thermodynamic properties of gases, relations between jet propulsion parameters; analysis of performance of the different types of jet devices; control problems; theoretical studies of combustion of gases. The second portion deals with theoretical and experimental methods of different types of jet devices design, influences of engine characteristics on airplane performance and design. Mechanical aspects of jet engines. 2 hr. lec., 3 hr. lab. Mr. Hnatiuk

280. Aeronautical Problems. I, II. 1-3 hr. Upper division and graduate. Staff

299. Thesis. I, II. 2-6 hr. PR: Senior standing and permission of the instructor. Staff

Graduate Division

351. Dynamics of Viscous Fluids. I, II. PR: A.E. 202. Outline of fluid motion with friction. Comparison between the theory of perfect fluids and experiment. The boundary layer concept, separation and vortex formation. Stokes' law of friction. General properties and exact solutions of the Navier-Stokes equations. Exact solutions of the steady and non-steady boundary layer equations in two-dimensional motion. Boundary layers in compressible flow. Fundamentals of turbulent flow. The characteristic parameters of a boundary layer. Three-dimensional boundary layers. Inductive theory of turbulence due to H. Reichard. Introduction to statistical theories of turbulence. Mixing theory for separating and separated boundary layer flow. Determination of profile drag. 3 hr. lec. Mr. Hnatiuk

352. Internal Aerodynamics. I, II. PR: A.E. 223. Systematic and comprehensive treatment of the flow characteristics of diffusers in general and inlet diffusers in particular. Supersonic inlet diffusers for turbojet and ramjet. Energy equation and related thermodynamics concepts as related to internal aerodynamics. Diffusers with the normal shock; flow process and efficiency in one dimensional analysis. Analysis of a two-dimensional multiple shock system for optimum pressure recovery. Experimental data and comparison with analysis. Diffusers with variable geometry, and diffusers with external compression. Spike diffusers and subcritical and near critical non-stationary flow process (buzz frequency and intensity). 3 hr. lec. Mr. Hnatiuk

353. Advanced Analytical Aerodynamics. I, II. PR: A.E. 202. The general properties of fluid motion, continuity, dynamics equation, pressure, energy and vorticity are studied in the light of the vector formulation. Green's Theorem. Detailed discussion of two dimensional motion from the unified standpoint of the complex variable; Couch-Riemann equation. Theorem of Kutta and Joukowski, Stokes, stream function and application of conformal mapping to three-dimensional problems. Blasius Theorem, resultant fluid forces and moments. Vortex motion in general with application to the airfoil of finite span. Kirchhoff's equations in vector form for research in stability problems. Examples of viscous flow, description of the boundary layer, differential equation of the boundary layer. 3 hr. lec. Mr. Hnatiuk

354. Advanced Topics in Aerodynamics. I, II. PR: A.E. 209. Dynamic stability. Advanced theoretical aerodynamics. Comparison of compressible and incompressible flow influences on aircraft. Application of boundary layer theory and aerodynamic design problems. Obtaining aerodynamic characteristics of the airplane from dynamic flight test techniques, such as frequency response, and transient response methods. The problems of automatic control. 3 hr. lec. Mr. Hnatiuk

355. Gas Dynamics. I, II. PR: A.E. 223. In this course, the fundamental theoretical framework for the aerodynamics of compressible flow is treated and the important mathematical theories and graphical-numerical approximation methods are developed. The first portion of this course treats, in brief: Difference between subsonic and supersonic flow; distinction between compressive and expansive flow and the application of the energy equations to compressible fluid flow. The second portion covers: Theory of two-dimensional flow; interaction between shock and expansion waves; the differential equation for rotational flow. Determination of the properties of supersonic profiles using the method of characteristic and theory of shock waves. Theory of three-dimensional flow; existence of potential flow in three dimensional phenomena. Two and three dimensional supersonic wing. Problem in transonic and hypersonic flow. Conical flow. Applications to supersonic aircraft design. 3 hr. lec. Mr. Hnatiuk

365. Instrumentation and Techniques of Supersonic Flow. I, II. Principles, uses and limitations of measuring devices used in supersonic flow. Measurement of the physical quantities of the flow in aerodynamic phenomena. Determination of the values of the static pressure and the Mach Number with pressure measurements. Temperature measuring devices and methods. Measurements of density; interferometers. Determination of density variation with methods using deviation of the rays; shadow system and Schlieren system. Photographic measuring techniques. Hot wire anemometer; specific problems. 2 hr. lec., 3 hr. lab. Mr. Hnatiuk

357. Special Problems. I, II. 2-4 hr. PR: Permission of department head. A course for graduate students in the non-research program. The student will select a specialized field and follow a course of study in that field under the supervision of a counselor. Staff

372. Aeroelasticity. I, II. 3 hr. PR: A.E. 218. Deformation of structures under static and dynamic loads, flutter of straight and swept wings, disturbed motion of an elastic airplane, dynamic response in gusts and landings, the areoelastic model theory. Mr. Ulrich

373. Dynamic Loads. I, II. 3 hr. PR: A.E. 203, 218. Dynamics of a particle, lift distribution during accelerated maneuvers, beam bending and torsion with unsteady loads, empennage loads during dynamic flight conditions, landing impact loads. Mr. Ulrich

374. Materials and Theories of Failure. I, II. 3 hr. PR: A.E. 211. Failures in simple stress states, combined stress states; method of fatigue failures, minimum weight structures, evaluation of material to resist design load conditions. Mr. Ulrich

375. Advanced Aircraft Structures. I, II. 3 hr. PR: A.E. 211. Incomplete tension fields, critical loads, torsional column failure, instability of flat sheets, cylindrical structure, special methods of analysis. Mr. Ulrich

AVIATION

Professor Seltzer; Flight Instructors Bennett, Mood and Wolfe.

Undergraduate Division

*170. Aviation Ground School. I, II, S. 2 hr. Nomenclature of aircraft, civil air regulations, navigation, meteorology, and aircraft engines. Staff

*171. Flight Training. I, II, S. 1 hr. Beginning flight instruction and training consisting of 20 hours of flight time. The student will have approximately 12 hours of dual and 8 hours of solo flying in this course. Special flight fee $100, payable at registration. Staff

*172. Flight Training. I, II, S. 1 hr. Continuation of A.E. 171, consisting of 20 hours flight time. This course, together with A.E. 171, should enable a student to obtain the required flight time and necessary experience to prepare him for a C.A.A. private pilot's examination. Special flight fee of $100, payable at registration. Staff

*173. Advanced Flight Training. I, II, S. 1 hr. Twenty hours flight training of an advanced nature, including radio and instrument navigation and procedures and advanced cross-country flying. Link Instrument Trainer instruction may be taken concurrently. Flight instruction given in Cessna airplanes. Special flight fee of $100, payable at registration. Staff

*175. Advanced Flight Training. I, II, S. 1 hr. Continuation of A.E. 173. Consisting of 20 hours of flight time. Special flight fee of $100, payable at registration. Staff

*176. Advanced Flight Training. I, II, S. 1 hr. Continuation of A.E. 175. Consisting of 20 hours of flight time. Special flight fee of $100, payable at registration. Staff

*177. Advanced Flight Training. I, II, S. 1 hr. Consisting of 20 hours of flight time. Special flight fee of $100, payable at registration. Staff

AGRICULTURAL ENGINEERING

Professors Longhouse and Dickerson; Associate Professor Emerson; Assistant Professors Flesher and Phillips; Instructor Elliott.

Undergraduate Division

Ag.E.

10. Introductory Agricultural Engineering. I. 3 hr. A general course introducing the several fields of Agricultural Engineering and where they are applied in Agriculture and Industry. 3 hr. rec. Mr. Longhouse

100. Farm Structures. II. 3 hr. PR: M. 102. Structural design and functional requirements of farm service buildings. 2 hr. rec., 3 hr. lab. Mr. Longhouse and Mr. Elliott

110. Application of Electricity to Agriculture. I. 3 hr. PR: E.E. 106. Economic application of electric light, heat, and power. 2 hr. rec., 3 hr. lab. Mr. Flesher

140. Soil and Water Conservation. I. 3 hr. PR: C.E. 115. Engineering principles and practices in conservation, utilization, and management of soil and water resources. 2 hr. rec., 3 hr. lab. Mr. Dickerson

180, 181. Assigned Topics. I, II. 1-4 hr. per semester. For juniors and seniors. Staff

190. Farm Machinery. II. 3 hr. PR: M.E. 113. Construction, operation, adjustment, and testing of farm machines. 2 hr. rec., 3 hr. lab. Mr. Phillips

230. Farm Power. I. 4 hr. PR: M.E. 121. Fundamental theories underlying design and operation of internal combustion engines used in agriculture. 3 hr. rec., 3 hr lab. Mr. Longhouse and Mr. Elliott

240. Hydrology. I. 2 hr. PR: C.E. 115. Study of the hydrologic cycle with emphasis on precipitation and runoff as related to design of hydraulic structures, soil and water conservation, and flood control. 2 hr. rec. Mr. Dickerson

Graduate Division

320, 321. Special Topics. I, II, S. 1-6 hr. (For the Master's Degree, Special Topics ordinarily may count 2 to 4 hours; maximum credit, 6 hours.) Staff

397. Research. I and II. 1-6 hr. Staff

*Courses may be taken by students in colleges other than the College of Engineering.

CHEMICAL ENGINEERING

Professors Koehler, Fairbanks,[1] P. R. Jones, Kent, and Simons; Assistant Professors Galli and Wen; Lecturer Sebastian; Instructors Barnard[2] and Crockett.[2]

Undergraduate Division

Ch.E.

*140. Chemical Engineering Calculations. I. 2 hr. PR: Chem. 2 and Math. 3. Industrial stoichiometry; industrial calculations involving material and energy balances. 2 hr. rec. Mr. Kent

160. Elements of Ceramics. I, II. 3 hr. PR: Chem. 15. Ceramic raw materials, body preparation, forming, drying, and firing. Physical and chemical properties of ceramic products. 3 hr. rec. Mr. Jones

161. Ceramic Laboratory. I, II. 1 hr. PR or conc: Ch.E. 160. Measurement of physical and chemical properties of ceramic material in the plastic, dry and fused states. 3 hr. lab. Mr. Jones

*200. Chemical Engineering Operations. I, II, S. 2 hr. An introduction to the various operations and equipment used in the chemical engineering industries. Primarily for chemistry majors. 2 hr. rec. Mr. Koehler

205. Principles of Chemical Engineering. I. 5 hr. PR or conc: Chem. 260. Theory and application of the unit operations of chemical engineering. 2 hr. rec., 6 hr. computation lab. Mr. Simons and Mr. Galli

207. Principles of Chemical Engineering. II. 5 hr. Continuation of Ch.E. 205. 3 hr. rec., 6 hr. computation lab. Mr. Simons and Mr. Galli

211, 212. Chemical Engineering Laboratory. I, II, S. 2 hr. PR: Ch.E. 207. Experimental work in the unit operations; practice in writing engineering reports. 6 hr. lab. Mr. Koehler, Mr. Wen, Mr. Jones, and Mr. Crockett

224. Unit Organic Processes. II. 3 hr. PR: Chem. 238 and Ch.E. 207. Unit processes involved in the synthetic organic chemicals industries. 3 hr. rec. Mr. Simons

*234. Chemical Technology. I, S. 2 hr. PR: Chem. 233. A survey of some of the manufacturing procedures employed in the process industries, including theory, equipment, and economics. 2 hr. rec. Mr. Galli

*235. Chemical Technology. II, S. 2 hr. PR: Chem 233. Similar to Ch.E. 234. 2 hr. rec. Mr. Galli

*238. Electrochemistry and Corrosion. I, II. 2 hr. PR: Chem. 2 and PR or conc: E.E. 105 or 130, or Chem. 260. Review of theoretical electrochemistry followed by a study of the underlying principles of several selected electrochemical industrial processes and how their principles have influenced design and operation. Approximately a quarter of the course is devoted to the electrochemical theory of corrosion and corrosion prevention. 2 hr. rec. Those desiring laboratory should register in Ch.E. 280 for 1 hr. Mr. Koehler

242. Chemical Engineering Thermodynamics. I. 3 hr. PR: Ch.E. 140 and Chem. 261. Applications of thermodynamics to chemical engineering; relationships between the fundamental and thermodynamic functions; thermodynamic transformations. 3 hr. rec. Mr. Jones

243. Chemical Engineering Thermodynamics. II. 3 hr. PR: Ch.E. 242. Applications of thermodynamics to non-ideal gases; construction of thermodynamic diagrams; mechanical work in non-ideal systems; fugacity, activity, and chemical potential; chemical reaction equilibria; physical equilibria. 3 hr. rec. Mr. Jones

[1]On leave, 1958-59.
[2]Part-time.

*Courses may be taken by students in colleges other than the College of Engineering.

248. Design of Experiments. II. 2 hr. PR: Math. 240. Descriptive statistics, mathematical technics, distribution systems, statistical inference, solution of regression equations, analysis of variance and covariance, factorial design, confounding, sequential design. 2 hr. rec. Mr. Jones

*250. Physical Metallurgy. I, II. 3 hr. PR: Phys. 112. Includes the principles of process metallurgy, plastic deformation, heat treating and alloying. 3 hr. rec. Mr. Barnard

*251. Metallography. I, II. 2 hr. PR or conc: Ch.E. 250. Preparation of ferrous and non-ferrous samples for micro-photography, heat treating, carburizing, physical testing and X-ray studies of metals. 1 hr. rec., 3 hr. lab. Mr. Barnard

*252. Ferrous Metallurgy. I. 2 hr. PR: Phys. 112. The making, shaping, alloying and heat treating of steel. 2 hr. rec. Mr. Fairbanks

*253. Nonferrous Metallurgy. II. 2 hr. PR: Phys. 112. Nature of ores, beneficiation smelting, refining, alloying, uses, heat treating, and properties of the major nonferrous metals. 2 hr. rec. Mr. Fairbanks

255. Metallurgical Calculations. II. 2 hr. PR: Ch.E. 250. Material and heat balances, charge, heat transfer and power calculations, and cost analysis. 2 hr. rec. Mr. Fairbanks

261. Ceramics. I, II. 3 hr. PR: Ch.E. 160. Body and glaze calculations. Compositions and properties of whitewares. 2 hr. rec., 3 hr. lab. Mr. Jones

262. Refractories. I. 2 hr. PR: Ch.E. 160. Manufacture, properties, uses of standard tests and phase diagrams of refractory materials. 2 hr. rec. Mr. Jones

*263. Glass. II. 2 hr. PR or conc: Chem. 15. Physical and chemical properties of glass. Methods of analysis of glass and raw materials. Theory and practice of manufacture. 2 hr. rec. Mr. Jones

264. Enamels, Glazes, and Colors. II. 3 hr. PR or conc: Ch.E. 261. Preparation and application of enamels, glazes, and colors. Physical tests and detailed study of problems. 1 hr. rec., 6 hr. lab. Mr. Jones

269. X-ray Diffraction. I, II. 2 hr. The theory of X-ray diffraction and application to the analysis of crystalline materials using the powder camera and X-ray diffractometer. Open to advanced students in geology, chemistry, engineering, and related fields with permission of the instructor. 1 hr. rec., 3 hr. lab. Mr. Jones

272. Chemical Engineering Design. I. 3 hr. PR: Ch.E. 207, M. 102, and Econ. 2. Design of process equipment from economic, chemical and engineering considerations. Study of plant location and layout. 2 hr. rec., 3 hr. lab. Mr. Simons

273. Chemical Engineering Design. II. 3 hr. Continuation of Ch.E. 272. 2 hr. rec., 3 hr. lab. Mr. Simons

280. Chemical Engineering Problems. 1-6 hr. For junior, senior and graduate students. Staff

*281. Fuel Technology. I. 2 hr. PR: Chem. 15. Technology of solid fuels. Classification and reserves. Analysis and testing. Origin, occurrence, composition, and properties. Mining and methods of manufacture. Principles of carbonization, gasification, and combustion. Fuel engineering calculations. Nucleonic fuels and their use in nuclear power plants. Economic aspects. 2 hr. rec. Those desiring laboratory work will register in Ch.E. 280 for 1 hr. Mr. Sebastion

*282. Fuel Technology. II. 2 hr. PR: Ch.E. 281. Technology of gaseous and liquid fuels. Classification and reserves. Analysis and testing. Origin, occurrence, composition, and properties. Methods of production. Natural gas and petroleum. Refining and cracking process. Manufactured fuel gases. Storage and transmission. Combustion processes and burner design. Gasification and combustion calculations. 2 hr. rec. Those desiring laboratory will register in Ch.E. 280 for 1 hr. Mr. Sebastian

284. Industrial Instrumentation and Control. I, II, S. 3 hr. PR: Math. 108. Discussion of process characteristics, theory and application of measuring means. Theory, modes and application of automatic control. Selection and characteristics of final control elements. 3 hr. rec. Mr. Galli

286. Petroleum Technology. I. 2 hr. PR: Chem. 233. Discussion of crude oil desalting, distillation, natural gasoline recovery, thermal and catalytic cracking solvent refining, dewaxing, filtration, blending, and compounding of petroleum products. 2 hr. rec. Mr. Galli

290. Introductory Nuclear Engineering. I, II. 3 hr. PR: Physics 112. Includes elementary nuclear physics necessary for an understanding of nuclear engineering. Design and operation of nuclear reactors, shielding, instrumentation, health physics, fuel cycles, uses of radioactive isotopes, nuclear propulsion. 3 hr. rec. Mr. Kent

297. Thesis. I, II. 2-5 hr. A problem in chemical engineering or industrial chemistry is selected for investigation. A carefully prepared report is required. Open only to qualified seniors. 6-15 hr. lab. Staff

Graduate Division

300. Seminar. I, II, S. 1-6 hr. Hours to be arranged. Staff

304. Advanced Unit Operations: Mass Transfer. I, II, S. 2-5 hr. PR: Ch.E. 207 and 243. Advanced theory and laboratory work in the diffusional operations, including absorption and extraction in their various aspects. 3 hr. rec., 0-6 hr. lab. Mr. Wen

305. Advanced Unit Operations: Drying. I, II, S. 2-5 hr. PR: Ch.E. 207. Advanced study of psychrometric principles and the various drying theories. 3 hr. rec., 0-6 hr. lab. Mr. Koehler

306. Advanced Unit Operations: Fluid Flow and Heat Transfer. I, II, S. PR: Ch.E. 207, or M.E. 125 and C.E. 115. Advanced study of heat transfer and fluid flow; fundamentals and applications to industrial processes. 3 hr. rec., 0-6 hr. lab. Mr. Simons

307. Advanced Unit Operations: Distillations. I, II, S. 2-5 hr. PR: Ch.E. 207 or Chem. 261. Advanced study of vaporization principles of separation of liquid mixtures, steam, batch, continuous, azeotropic, extractive, and molecular distillation. 3 hr. rec., 0-6 hr. lab. Mr. Galli

323, 324. Advanced Unit Processes. I, II, S. 2-5 hr. PR: Chem. 238 and Ch.E. 207. Advanced study of the unit processes with application to process development. 2 hr. rec., 0-9 hr. lab. Mr. Simons

*340. Phase Equilibria. I, II, S. 2 hr. PR: Chem. 261. Interpretation, construction and applications of one, two, and three-component diagrams; applications of the phase rule. 2 hr. rec. Mr. Koehler

344. Advanced Chemical Engineering Thermodynamics. I, II, S. 3 hr. PR: Ch.E. 243. Review of thermodynamic transformations, use of Jacobians; advanced applications to chemical and physical equilibria; development and applications of phase rule; equilibria diagrams for non-ideal systems; determination and use of activity coefficients; methods of estimating thermodynamic functions; introduction to statistical mechanics. 3 hr. rec. Mr. Wen

345. Chemical Engineering Kinetics. I, II, S. 3 hr. PR: Ch.E. 243. Applications of chemical kinetics to industrial reactor design; review of physical chemical principles; theories of reactions, design of batch and flow reactors; theories of catalysis; reaction mechanisms; data interpretation; applications to design of catalytic reactors; effects of diffusion on catalytic reactions. 3 hr. rec. Mr. Kent

*350. Advanced Physical Metallurgy. I. 3 hr. PR: Ch.E. 250. Includes crystallization, plastic deformation and constitutional diagrams. 3 hr. rec. Mr. Fairbanks

*351. Advanced Metallography Laboratory. I, II. 3 hr. PR: Ch.E. 251. Includes a study of slip bands, precipitation hardening, isothermal transformation of austenite, hardenability, powder metallurgy and crystallography. 9 hr. lab. Mr. Fairbanks

352. Advanced Ferrous Metallurgy. I. 3 hr. PR: Ch.E. 252. Recent developments in making, shaping, alloying, and heat treating of steel. 3 hr. rec. Mr. Fairbanks

353. Advanced Nonferrous Metallurgy. II. 3 hr. PR: Ch.E. 253. Recent developments in beneficiation, reduction, refining, alloying, and heat treating of nonferrous metals. 3 hr. rec. Mr. Fairbanks

354. Adv. Physical Metallurgy. II. 3 hr. Continuation of Ch.E. 350. Includes principles of heat treating, alloying and metal fabricating. 3 hr. rec. Mr. Fairbanks

355. Advanced Metallurgical Calculations. II. 3 hr. PR: Ch.E. 243. Comprehensive problems on metallurgical processes. Mr. Fairbanks

360. Advanced Ceramic Technology. I, II. 3 hr. PR: Ch.E. 161. Special ceramic bodies including high temperature porcelains and high frequency insulators. 3 hr. rec. Mr. Jones

361. Advanced Ceramic Laboratory. I, II. 2 hr. PR or conc: Ch.E. 360. X-ray analysis, measurements of mechanical, electrical and chemical properties of ceramic materials. Special forming methods. Mr. Jones

372. Advanced Chemical Engineering Design. I, II, S. 2-5 hr. PR: Ch.E. 273. Critical discussion of and practice in equipment-design methods. 2 hr. rec., 0-9 hr. lab. Mr. Simons

379. Seminar in Coal Research. I, II. 1 or 2 hr. PR: Consent. Credit 1 hr. per semester, maximum credit 2 hr. In cooperation with other departments and the Bureau of Mines. 1 hr. rec. Mr. Koehler

381. Advanced Fuel Engineering. I. 3 hr. PR: Ch.E. 282. 3 hr. rec. Mr. Koehler

390. Principles of Nuclear Engineering. I. 3 hr. PR or conc: Physics 225 or equiv. and Physics 287 or equiv. Nuclear reactor theory, instrumentation, and control. 2 hr. rec., 3 hr. calculations and experimentation lab. Mr. Kent

391. Principles of Nuclear Engineering. II. 3 hr. PR: Ch.E. 390. Radiation and shielding calculations, processing spent reactor fuels, reactor materials, fluid flow and heat removal, economic considerations. 2 hr. lec., 3 hr. calculation lab. Mr. Kent

392. Interaction of Radiation and Matter. I. 3 hr. PR or conc: Physics 225. Fundamentals of interaction, effects on reactor materials, other effects of nuclear radiations, uses of nuclear radiations. Staff

393. Nuclear Measurements Laboratory. II. 3 hr. PR or conc: Ch.E. 390 or equiv. Observation and measurement of nuclear phenomena, including experiments with ionizing radiations, neutrons, using various detection and measurement apparatus. 9 hr. lab. Staff

397. Research. I, II, S. PR: Ch.E. 207 and 212. 1-10 hr. Suitable problem in chemical engineering, metallurgy, nucleonics, ceramics, or fuels is selected for investigation. Mr. Koehler and Staff

CIVIL ENGINEERING

Professors Baker, Sami, and Speiden; Associate Professor Burchinal; Instructors Chambers, Mitchell, and Rupert.

Undergraduate Division

C.E.

*1. Surveying. II. 2 hr. PR: Math. 4. For non-civil engineering students. Elementary theory of measurement of distance, direction, and difference in elevation. Field work with transit, tape, level, stadia, and plane table. Office computation and plotting. 1 hr. rec., 3 hr. lab. Staff

*2. Surveying. I. 4 hr. PR: Math. 4. Instruments and methods for measurements of distance, direction, and difference in elevation; stadia, topographic, and land surveying; traverse and area calculations; map plotting. 3 hr. rec., 3 hr. lab. Mr. Mitchell

*3. Route Surveying. II. 2 hr. PR: C.E. 2. Simple, compound, reversed, and spiral curves; vertical curves; cross-sectioning; slope-stake setting. 2 hr. rec. Mr. Mitchell

*5. Land Surveying. I. 4 hr. PR: Math. 10. Primarily for forestry students. Theory and practice with compass, transit, level, stadia, and plane table; computations of area; astronomical observations; map plotting. 2 hr. rec., 6 hr. lab. Staff

*6. Topographic Mapping. II. 2 hr. PR: C.E. 5. Primarily for forestry students. Topographic maps; surveys for roads and property lines; U. S. Public Land Surveys; practice in lettering, plotting, and inking of topographic maps. 1 hr. rec., 3 hr. lab. Staff

104. Summer Surveying. S. (5 weeks). 5 hr. PR: C.E. 3. Field practice and further theory in topographic, hydrographic, route, plane table, and land surveys; bench mark levels, triangulation, astronomical observations; computations, and map plotting. Staff

105. Highway Engineering. I. 4 hr. PR: C.E. 104. Highway administration, economics, and finance; planning and design; subgrade soils and drainage; construction and maintenance. Design of a highway. Center line and grade projections, earthwork and cost estimate. 2 hr. rec., 6 hr. lab. Mr. Baker

106. Railway Engineering. II. 3 hr. PR: C.E. 104. Development and importance of the railroad industry. Principles of location, construction, operation, and maintenance. Mr. Baker

115. Fluid Mechanics. I, II, S. 3 hr. PR or conc: M. 104. Fluid statics, laminar and turbulent flow of compressible and incompressible fluids, flow measurements, open channel flow, and kinetics of fluids. 3 hr. rec. Staff

116. Fluid Mechanics Laboratory. I, II. 1 hr. PR or conc: C.E. 115. Measurement of the properties and flow characteristics of gases and liquids. Hydraulic machinery. 3 hr. lab. Staff

*117. Municipal Engineering. I. 2 hr. PR: C.E. 115. Required for Sanitary Engineering option. Water supply and treatment of sewage, collection and disposal of garbage and rubbish; insect and rodent control; milk and food sanitation; industrial hygiene; swimming pool sanitation. 2 hr. rec. Staff

*120. Engineering Materials. II. 2 hr. PR: M. 103. Properties and economic use of various materials used in engineering. 2 hr. rec. Mr. Chambers

*121. Structural Analysis. I, II. 4 hr. PR: M. 102. Stresses in bridge and roof trusses graphically and analytically; dead loads, panel loads, highway loads; influence lines; beams and girders; riveted and welded connections. 3 hr. rec., 3 hr. computation and design. Mr. Chambers

*122. Structural Engineering. I. 3 hr. PR: M. 102. For sanitary option civil engineering students and non-civil engineering students. Stresses in trusses under dead and live load; beams and girders; rivited and welded connections. Design of structural elements. 2 hr. rec., 3 hr. computation and design. Staff

123. Structural Design. I. 3 hr. PR: C.E. 121. Design of steel and timber structures. Welded, riveted, and bolted connections. Cost estimates. 9 hr. computation. Staff

124. Thesis. I, II. 2 to 4 hr. Special design, investigation or original research on an assigned topic relating to Civil Engineering. Staff

130. Water Supply and Sewerage. I. 5 hr. PR: C.E. 115. Required quantity and quality of water; sources, treatment, pumping, and distribution of water; uniform and non-uniform flow in open channels, rainfall and runoff; design and operation of sewers. 4 hr. rec., 3 hr. lab. Mr. Speiden

140. Contracts and Specifications. II. 2 hr. PR: Junior standing. Elements of contracts; contracting procedures; contract documents; preparation of specifications; legal relations, rights and responsibilities of engineers. 2 hr. rec. Mr. Baker

200. Water-Power Engineering. II. 2 hr. PR: C.E. 115. Flow and power of streams; power loads; storage required; design of a high masonry dam; hydraulics of turbines; turbine characteristics; appurtenances. Mr. Speiden

201. Fluid Mechanics Laboratory. I, II. 2 hr. PR or conc: C.E. 115. Calibration of gages, meters, orifices and weirs; pipe friction; loss in bends; impulse turbines; flow in open chanels. 6 hr. lab. Staff

202. Water Purification. I. 3 or 4 hr. PR or conc: C.E. 130. Slow and rapid sand filtration; coagulation, disinfection; softening; corrosion control; specifications for filter sand and water works chemicals; physical and chemical characteristics of water; bacterial quality. 1 hr. rec. and 6 hr. lab. for 3 hr. cr. In addition to the above the design of elements of a rapid sand filter plant. 3 hr. lab. Total of 4 hr. cr. Mr. Speiden

203. Sewage Disposal. II. 3 hr. PR: C.E. 115. Characteristics of sewage; dilution; irrigation; screening; sedimentation; oxidation; chlorination; digestion and disposal of sludge; activated sludge process; industrial wastes. 2 hr. rec., 3 hr. lab., Mr. Speiden

204. Advanced Structures. II. 3 hr. PR: C.E. 121. Deflections of trusses and girders by auxiliary load of unity, Castigliano's Theorem, Williot diagram, elastic curve and moment area methods; cantilever bridges; two and three hinged arches; continuous spans; swing bridges; suspension bridges. 3 hr. rec. Staff

205. Soil Engineering. II. 3 hr. PR: C.E 115, 121. Classification of soils; permeability; seepage; shearing strength; slope stability; bearing capacity; subsidence. 2 hr. rec., 3 hr. lab. Staff

206. Reinforced Concrete. II. 3 hr. PR: C.E. 121. Rectangular beams; single and double reinforcement; T-Beams; columns; combined bending and thrust; footings; concrete building bay; arch for highway bridge. 1 hr. rec., 6 hr. lab. Staff

209. Highway Materials Laboratory. II. 2 hr. PR: M. 103. Testing of highway materials for compliance with specifications in the State Road Commission's Materials Testing Laboratory. 6 hr. lab. Staff

210. Photogrammetry. I. 2 hr. PR: C.E. 104. Geometry and interpretation of the aerial photograph; flight planning; radial-line control; principles of stereoscopy; plotting instruments. 1 hr. rec., 3 hr. lab. Mr. Baker

211. Geodesy. II. 3 hr. PR: C.E. 104 and Math. 108. Precise base line measurements, triangulation and leveling, geodetic astronomy; figure of the earth, map projections; rectangular coordinate systems; least squares adjustment; gravity. 3 hr. rec. Mr. Baker

280. Civil Problems. II. 1-4 hr. For junior, senior and graduate students. Staff

Graduate Division

351. Advanced Water-Supply Engineering. I, II. 2-6 hr. PR: C.E. 130. A detailed study of specific problems concerning the collection, treatment or distribution of water. Mr. Speiden

352. Sewerage and Sewage Disposal. I, II. 2-6 hr. PR: C.E. 130. Special problems involved in the structural or hydraulic design of sewers or in the treatment and disposal of sewage or industrial wastes. Mr. Speiden

355. Soil Mechanics. I, II. 2-6 hr. Classification of soils; permeability; seepage; settlement; shearing strength; stability of slopes; lateral pressures. Special theoretical or laboratory investigations. Staff

360. Statically Indeterminate Structures. I. 3 hr. PR: C.E. 204. General theory of continuity; moment distribution; the column analogy, rigid frames for bridges and buildings; fixed arches. 3 hr. rec. Mr. Sami

361. Structural Theory and Design. II. 3 hr. PR: C.E. 360. Statically indeterminate trusses; continuous trusses; steel and concrete arches; long-span and suspension bridges; secondary stresses. 3 hr. rec. Mr. Sami

365. Reinforced Concrete Design. I. 3 hr. PR: C.E. 206. Theories of action of beams, slabs, and columns of reinforced concrete; review of standard codes and specifications and their influence on design. 3 hr. rec. Mr. Sami

366. Behavior of Reinforced Concrete Members. I. 3 hr. PR or conc: C.E. 365. Studies of the actual behavior and strength of reinforced concrete members by critically reviewing experimental and analytical investigations. Beam subjected to pure flexure, columns subjected to axial compression; combined flexure and compression; combined flexure, shear, and bond. 3 hr. rec. Mr. Sami

367. Behavior of Reinforced Concrete Structures. II. 3 hr. PR: C.E. 366. Continuation of C.E. 366. Studies of behavior and strength of statically indeterminate reinforced concrete structures. Comparison with reinforced concrete codes and specifications. 3 hr. rec. Mr. Sami

397. Research. I, II. 2-6 hr. Original report, or investigation on some topic in the Civil Engineering field. Staff

ELECTRICAL ENGINEERING

Professors Jones, Seibert, and M. J. Smith; Associate Professors Peterson and Theophilus; Assistant Professors Dubbe and N. S. Smith; Instructors Barbe, Martin, Lynch,[1] and Ownley.

Undergraduate Division

E.E.

*10. Introductory Electrical Engineering. I, II, S. 2 hr. PR: Math. 5. An elementary course to introduce the fundamental laws and principles of electrical circuits. Introduction to electrical laboratory equipment and procedure. 1 hr. rec., 3 hr. lab. Mr. Theophilus

*104. Illumination. I, II. 2 hr. PR: Physics 112 and Math. 108. A study of the basic principles and practices of illumination engineering, including a lighting survey and the design of a typical lighting installation. 2 hr. rec. Mr. Peterson

*105. Electrical Fundamentals. I, II. 4 hr. PR: Math. 108 and Physics 112. Fundamental principles of electric and magnetic circuits. Induced and generated electromotive force. Fundamental A.C. circuit analysis. Polyphase systems. Elementary electronics. 3 hr. rec., 3 hr. lab. Mr. Martin and Mr. Ownley

106. Electrical Machinery. I, II. 4 hr. PR: E.E. 105 or consent. The operating characteristics, applications, and control of electrical machinery and equipment used in industry. 3 hr. rec., 3 hr. lab. Mr. Peterson

*120. Electric and Magnetic Circuits. I, II, S. 3 hr. PR: E.E. 10, Math. 108 (or conc.), Physics 112 (or conc.). Underlying principles of electric, magnetic, and dielectric circuits including applications of Ohm's and Kirchhoff's laws. Induced and generated electromotive force. 3 hr. rec. Mr. Theophilus

*121. Electrical Measurements Laboratory. I, II, S. 2 hr. To accompany E.E. 120. Principles of electrical instrumentation. 1 hr. rec., 3 hr. lab. Mr. Theophilus

*125. A.C. Circuits. I, II. 4 hr. PR: E.E. 120 and Math. 108. The study of sinusoidal wave forms, introduction and use of complex algebra as applied to a-c circuit analysis, analysis of linear bilateral networks, coupled circuit behavior, and polyphase systems. 3 hr. rec., 3 hr. lab. Mr. Barbe

*126. Electric and Magnetic Fields. I, II. 3 hr. PR: E.E. 120 and Math. 108. Introduction to field theory. 3 hr. rec. Mr. M. J. Smith

[1]Part-time.

132. Electromechanical Devices. I, II. 4 hr. PR: E.E. 125 and E.E. 126. Fundamentals of electromechanical energy conversion. Transformers and rotating machines. 3 hr. rec., 3 hr. lab. Mr. M. J. Smith

133. Electromechanical Devices. I, II. 4 hr. PR: E.E. 132. Analysis of machine-performance by the principles of electromechanical energy conversion. 3 hr. rec., 3 hr. lab. Mr. M. J. Smith

180. Electrical Problems. I, II. 1-3 hr. For sopohomores and juniors. Staff

205. Industrial Electronics. I, II. 3 hr. PR: E.E. 105. Characteristics of electronic tubes and transistors, applications to control devices and instrumentation. (Not open to electrical engineering students.) 3 hr. rec. Mr. Jones

235. Electrical Machinery. I. 3 hr. PR: E.E. 133 or consent. Synchronous machines, windings, calculation of emf and mmf; mmf space functions. Potier diagram, ASA regulation, 2-reactance diagrams. Multiple-winding transformers and auto transformers. 2 hr. rec., 3 hr. lab. Mr. M. J. Smith

236. Electrical Machinery. II. 3 hr. PR: E.E. 133 or consent. Commutation theory of machines, d-c and a-c multiple-winding and special purpose machines; multiple machine systems. 2 hr. rec., 3 hr. lab. Mr. M. J. Smith

244. Electrical Calculations and Design. I. 3 hr. PR: E.E. 133. Problems pertaining to the design of electrical equipment. 1 hr. rec., 6 hr. lab. Mr. Jones

245. Electric Control. I, II. 2 hr. PR: E.E. 133. A study of control equipment and its application. Stress is placed on the ability to understand control circuits. 6 hr. lab. Mr. Peterson

*250. Electronics. I, II. 3 hr. PR: E.E. 125, 126. The study of electron ballistics, tube characteristics, rectifiers and voltage amplifiers. 2 hr. rec., 3 hr. lab. Mr. N. S. Smith and Mr. Barbe

*252. Electronics. I, II. 3 hr. PR: E.E. 250. The study of power amplifiers, tuned amplifiers, oscillators and modulators. 3 hr. rec. Mr. N. S. Smith and Mr. Seibert

*257. Transistor Circuits. I, II. 3 hr. PR: E.E. 252 or consent. A study of the general operating properties of the transistor as a circuit element. 3 hr. rec. Mr. Seibert

260. Transmission Lines. I, II. 3 hr. PR: E.E. 125, 126 and Math. 253. An introduction to transmission line theory and practice at power, audio, and radio frequencies, 3 hr. rec. Mr. Dubbe

261. Networks and Filters. I, II. 3 hr. PR: E.E. 260 or consent. Analysis and synthesis of network and filters. 3 hr. rec. Mr. Dubbe

262. Electrical Laboratory. I, II. 2 hr. To accompany E.E. 252 and E.E. 260. 6 hr. lab. Mr. Dubbe and Mr. Seibert

*264. Radio Engineering. I, II. 3 hr. PR: E.E. 252 or consent. Study and analysis of radio transmission, receiving and sound systems, frequency modulation, television, radiation and propagation. 3 hr. rec. Mr. Seibert

*265. Radio Laboratory. I, II. 3 hr. To accompany E.E. 264. 6 hr. lab. Mr. Seibert

280. Electrical Problems. I, II. 1-3 hr. For junior, senior, and graduate students. Staff

281. Electrical Power Systems. I. 3 hr. PR: E.E. 260 or consent. Polyphase transformation with three-phase and with single-phase transformers. Principles of circuit protection and relaying. Principles of grounding. Introduction to symmetrical components. 2 hr. rec., 3 hr. lab. Mr. M. J. Smith

282. Symmetrical Components. II. 3 hr. PR: 260 or consent. An application of the methods of symmetrical phase components in calculating currents in systems under various types of unbalanced conditions. 3 hr. rec. Mr. M. J. Smith

284. Transients. I, II. 3 hr. PR: E.E. 125 and Math. 253. A study of the transient behavior of various electrical circuits and networks. An introduction to the Laplace Transform methods, Heaviside's Expansion Theorem, and the Superposition principle. 3 hr. rec. Mr. Dubbe

285. Electric-Power Transmission and Distribution. I, II. 3 hr. PR: E.E. 260. A study of circle diagrams applied to the various problems of power transmission; phase modifier applications and an introduction to power system stability. 3 hr. rec. Mr. Dubbe

286. Fundamentals of Servomechanisms. I, II. 3 hr. PR: E.E. 284. Fundamental analysis of the servomechanisms and automatic control devices. 3 hr. rec. Mr. Barbe and Mr. Dubbe

287. Industrial Electronics and Controls. I, II. 3 hr. PR: E.E. 250 or consent. A study of electronics and magnetic control equipment and its application in industry. 3 hr. rec. Mr. Dubbe

288. Antennas. II. 3 hr. PR: E.E. 264 or consent. Analysis and design of antenna systems. 3 hr. rec. Mr. Seibert

299. Ultra-High-Frequency Technology. II. 3 hr. E.E. 264 or consent. Study of special problems encountered at high and ultra-high frequencies with special emphasis on pulse techniques as used in radar, television, and pulse-modulation. 3 hr. rec. Mr. Seibert

Graduate Division

300. Seminar. I, II, S. 1-3 hr. PR: Consent. Discussion of research in electrical engineering and special problems. Staff

301. Electrical Power Systems. I. 3 hr. PR: E.E. 281 or consent. Load flow problems. Transient and steady state stability of systems. The principles of the application of network analyzers and other computing devices to the solution of power system problems. 3 hr. rec. Mr. M. J. Smith

330. Electrical Machinery. II. 3 hr. PR: E.E. 235 or consent. Advanced theory of synchronous and induction machinery following Parks-Doherty-Nickel theory; applications of matrix algebra and tensor analysis. 3 hr. rec. Mr. M. J. Smith

350. Vacuum-Tube Circuits. I, II. 3 hr. PR: E.E. 252. An advance study for the analysis and design of vacuum-tube circuits. 3 hr. rec. Mr. Seibert

379. Seminar in Coal Research. I, II. 1 or 2 hr. PR: Consent. Credit 1 hr. per sem., max. credit, 2 hr. (In cooperation with other departments and the U.S. Bureau of Mines.)

386. Servomechanisms. II. 3 hr. PR: E.E. 286 or consent. An advanced study of the analysis and synthesis of servo-control circuits. 3 hr. rec. Staff

397. Research. I, II. 1-6 hr. Advanced research or special investigations on some topic related to electrical engineering. Mr. Jones and Staff

GENERAL

Professors C. H. Cather and Worrell; Associate Professor Weaver.

G.

1. Engineering Lectures. I. (credit). Required of all freshmen in engineering. A series of lectures designed to acquaint the engineering student at the beginning of his course with the profession he has chosen. 1 hr. lec. Mr. Cather

100. Inspection Trip. II. (credit). Required of all seniors in engineering. Staff

190. Law for Engineers. I, II. 3 hr. PR: M. 102. Contracts, agency, business organization, sales, negotiable instruments, real and personal property, professional registration and patents. 3 hr. rec. Mr. Worrell and Mr. Weaver

INDUSTRIAL ENGINEERING

Professor R. E. Shaffer; Associate Professor Armstrong; Instructors Cook, Delaney, Jones, and Martin.

Undergraduate Division

I.E.

*7. Welding and Heat Treatment. I, II, S. 1 hr. Practice in cutting and welding steel and cast iron with oxy-acetylene and electric arc welding equipment. Demonstrations of different methods of heat treatment. One 3 hr. lab.
Mr. Armstrong and Mr. Martin

*11. Machine Work. I, II, S. 2 hr. A study of equipment, purpose and character of operations, methods of holding work, turning, boring, drilling, grinding and shaping. Use of precision measuring instruments. Two 3 hr. lab.
Mr. Armstrong, Mr. Martin, and Mr. Delaney

15. Welding, Forming, and Heat Treatment. I, II, S. 2 hr. Molding and casting of ferrous and nonferrous metals, oxy-acetylene welding, electric welding, resistance welding of plates, pipes, tubing, etc. Lectures, recitations, demonstrations, and shop practice. 6 hr. lab. Staff

31. Principles of Industrial Engineering. I, II. 2 hr. PR: Freshman standing. Principles of organization, including study and design of organization charts; elementary principles of motion and time study which includes elemental breakdown of jobs, use of time-study watches and analysis of principles of motion economy; application of equipment to present-day industrial processes. 2 hr. rec. Mr. Cook

40. Industrial Mechanisms. I, II. 1 hr. PR: M.E. 20. Study of fundamental mechanisms applied to production machinery, i.e., clamping devices, timing devices, timing linkages, transfer mechanisms, etc. Design of mechanisms to give specified motions and replacement of one type of mechanism by another. One 3 hr. lab. Mr. Armstrong

*100. Manufacturing Processes. I, II, S. 3 hr. Lectures, demonstration, and laboratory work relating to methods, types of equipment and character of operations of welding machines and machine tools. Emphasis is placed on the economic use of machine tools, assembly line manufacture, gauging, and inspection. 1 hr. rec., 6 hr. lab. Mr. Armstrong, Mr. Delaney, and Mr. Martin

110. Tool Design. I, II. 3 hr. PR: M. 102. Design, construction, application and economic aspects of jigs, fixtures and special tools used in manufacturing on a production basis. 3 hr. rec. Mr. Armstrong

140. Motion and Time Study. I, II, S. 3 hr. PR: I.E. 31. Principles and techniques, job analysis, standardization and formula construction, stop watch and micro-motion analysis of industrial operation, development of production and incentive standards. 2 hr. rec., 3 hr. lab. Mr. Cook

142. Production Control. I, II, S. 3 hr. PR or conc: I.E. 140. Planning, scheduling, routing and dispatching in manufacturing operations and production control systems. 3 hr. rec. Mr. Cook or Mr. Jones

144. Engineering Statistics. I, II, S. 3 hr. PR or conc: Math. 108. The use of graphical analysis; measures of central tendency and dispersion; normal, binomal and Poisson distributions in engineering application; linear regression and correlation and tests of significance. 3 hr. rec. Mr. Shafer or Mr. Cook

*150. Industrial Accounting. I, II, S. 2 hr. PR: Accounting 1. A survey of the essentials of cost accounting. Emphasis is placed on the utilization of cost data and reports by management indicating management's control over industrial operations. 2 hr. rec. Mr. Cook

151. Accounting for Engineers. I, II. 4 hr. PR: Junior standing. A study of the accounting cycle, journals, and ledgers, study of fixed assets and depreciation and interpretation of financial statements. A survey of the essentials of cost

accounting. Emphasis is placed on the utilization of cost data and reports by management indicating management's control over industrial operations. 4 hr. rec. Mr. Cook

160. Work Measurement and Methods Engineering. I, II. 4 hr. PR: I.E. 144 (or concurrent) and *Junior* standing. Fundamentals of motion and time study, job analysis and standard practice. Advanced work measurement techniques of micro-motion analysis, work sampling, standard data and formula construction, and pre-determined time standards. Development of allowances, production, and incentive standards. Methods engineering; operation analysis, process chart usage in man, machine, and materials handling analysis. Operator analysis of workplace layout, motion economy design, and synthetic methods development by use of fundamental motions. Three 1 hr. rec., one 3 hr. lab. Mr. Cook

200. Metal-Cutting Theory and Practice. I, II. 3 hr. PR: I.E. 100, and Ch.E. 250. Metal-cutting tools, tool materials, work materials, cutting fluids, process of chip formation, cutting forces, tool-life tests, economic tool life, measurement of product. 2 hr. rec., 3 hr. lab. Mr. Armstrong

211. Industrial Engineering Problems. I, II. 2 hr. PR: I.E. 160. For seniors. Special problems relating to industrial engineering. Mr. Shafer

214. Advanced Analysis of Engineering Data. I, II, S. 3 hr. PR: I.E. 144. The application of advanced theories of statistical techniques to analyze and interpret industrial problems; the determination of economic lot sizes for production and design and construction of nomographs. 3 hr. rec. Mr. Shafer

240. Motion and Time Study. I, II, S. 3 hr. PR: Junior standing, nonindustrial engineering student. Principal aims and applications of time and motion study; job analysis; standardizations, use of stop watch, micro-motion analysis, operation and methods analysis. 2 hr. rec., 3 hr. lab. Mr. Cook

250. Electronic Computer Data Processing. II. 3 hr. PR: Senior Engineering status. Elements of number systems. Fundamentals of digital computer operations, equipment characteristics, input and output components. Emphasis is placed on integrated systems analysis and design, business and industrial data for computer applications, and techniques of programming. Existing equipment systems, and economics of their application will be reviewed. 3 hr. rec. Mr. Jones

254. Introduction to Operations Research. I, II. 3 hr. PR: I.E. 142 and 151 or consent of instructor. Economic problems of production management; schematic models; linear programming; total value analysis; incremental analysis; monte carlo analysis; and equipment investment analysis. 3 hr. rec. Mr. Shafer

286. Engineering Economy. I, II, S. 2 hr. PR: M. 102. Comparison of the relative economy of engineering alternatives; compound interest in relation to calculation of annual costs, present worth and prospective rates of return on investment; increment costs, sunk costs and the economy of equipment replacement. 2 hr. rec. Mr. Shafer

287. Engineering Economy. I, II. 3 hr. PR: M. 102. Comparison of the relative economy of engineering alternatives; compound interest in relation to calculation of annual costs; present worth and prospective rates of return on investments; methods of depreciation; sunk costs, increment costs; general economy studies with emphasis on retirement and replacement of equipment; consideration of taxes, public works, and manufacturing costs as related to economic solution of engineering proposals. 3 hr. rec. Mr. Shafer

288. Job Evaluation and Wage Incentives. I, II, S. 3 hr. PR: I.E. 140 or consent of instructor. Principles used in evaluating jobs, rates of pay; characteristics and objectives of wage incentive plans; incentive formulas and curves. 3 hr. rec. Mr. Cook or Mr. Shafer

290. Industrial Statistics. I, II, S. 2 hr. PR: I.E. 144. Economic objectives of quality control in manufacturing through sampling methods; the Shewhart control chart for variable attributes and defects per unit; statistical approach to accepted procedures. 2 hr. rec. Mr. Shafer

292. Plant Layout and Design. I, II, S. 3 hr. PR: I.E. 142. Problems in industrial plant design, equipment location, space utilization, layout for operation and control; flow sheets; materials handling; allied topics in power utilization, light, heat and ventilation. 1 hr. rec., two 3 hr. labs. Mr. Shafer

294. Standard Manufacturing Costs. I, II, S. 3 hr. PR: I.E. 150. Development of standards for labor, material, and overhead expenses; uses of standards for control; analyses of variances between standard and actual costs. 3 hr. rec. Mr. Shafer

Graduate Division

361. Methods Analysis and Work Simplification. I, II. 3 hr. PR: I.E. 160, 286. An advanced study of the techniques of methods analysis, including modern means of methods research. Development of appropriate cost analyses to accompany improved operating plans. A study of the design, installation, and administration of work simplification programs, suggestion systems, and remuneration policies, and the means of intra-plant communications concerning such programs. 2 hr. rec., 3 hr. lab. Mr. Shafer

370. Theory of Industrial Engineering and Organization. I, II, S. 3 hr. PR: Graduate standing and consent of instructor. History and development of scientific management in industry starting with early works of Taylor, Gilbreth and Gantt, to the present time. 3 hr. rec. Mr. Shafer

371. Methods Analysis. I, II. 2 hr. PR: I.E. 140. An advanced study of the technique of methods analysis as an effective means of methods improvement and cost reduction. 2 hr. rec. Mr. Shafer

372. Advanced Time Study. I, II, S. 3 hr. PR: I.E. 140. Review of the various investigations which have been made, with special consideration given to the development of these studies into new fields. 3 hr. rec. Mr. Shafer

373. Budget Control. I, II. 2 hr. PR: I.E. 294. Principles involved in the preparation of budgets by functional divisions and the application of divisional budgets as control media. 2 hr. rec. Mr. Shafer

374. Advanced Engineering Economy. I, II. 3 hr. PR: I.E. 286. Continuation of I.E. 286, with special emphasis on depreciation, engineering and economic aspects of selection and replacement of equipment; relationship of technical economy to income taxation and load factor and capacity to economy. 3 hr. rec. Mr. Shafer

380. Integrated Data Processing. I, II. 3 hr. PR: I.E. 250 and consent of instructor. Advanced work in electronic data-processing systems and procedures design. Case studies of integrated data-processing systems. Course projects will include individual use of a computer in management data-processing analysis problems. 3 hr. rec. Mr. Shafer

390. Advanced Industrial Statistics. I, II. 3 hr. PR: I.E. 290. Advanced study of 10 percent-, single-, double-, and sequential-sampling procedures, problems of application of statistical quality control methods in industries. 3 hr. rec. Mr. Shafer

397. Research. I, II. 1-6 hr. Investigation or original research on some special topic relating to industrial engineering. Staff

MECHANICAL ENGINEERING

Professor H. M. Cather, Associate Professors Hamilton, Slonneger, and Strait; Assistant Professor Gengsoy; Instructors Long, Parmer, Stewart, and Warner.

Undergraduate Division

*20. Engineering Drawing. I, II, S. 3 hr. PR: Plane Geometry. Lettering, use and care of instruments, orthographic projection, isometric drawing, auxiliary views, detail drawings and working drawings, assembly drawings, reproduction of drawings, and piping layouts. 1 hr. rec., 6 hr. lab. Mr. Strait and Staff

*26. Descriptive Geometry. I, II, S. 2 hr. PR: M.E. 20, Math. 4, and solid geometry. The application of projective drawing to the solution of advanced space problems dealing with points, lines, planes, and solids by the use of auxiliary views. 6 hr. lab. Mr. Strait and Staff

39. Mechanism. I, II. 2 hr. PR: M.E. 26. Analytical and graphical study of relative displacements of fundamental mechanisms, i.e., linkages, cams, gears, gear trains, pulleys, sheaves, etc. Design of mechanisms to give required displacement curves and study of replacement of one type of mechanism by another. 6 hr. lab. Mr. Gencsoy and Mr. Hamilton

112. Kinematics and Dynamics of Machines. II. 3 hr. PR: M.E. 39 and M. 104. Analytical and graphical solution of velocities, accelerations and force systems encountered in machines. Balancing of reciprocating and rotating masses; vibration and critical speed of shafts; turning effort diagrams and their analysis for fly-wheel requirements; theory of governors, and gyroscopic forces. 2 hr. rec., 3 hr. lab. Mr. Gencsoy and Mr. Hamilton

113. Design of Machine Members. I. 3 hr. PR: M. 103 and M.E. 112 or consent. Analysis and design of machine members based on the theory of strength of materials and its modifications due to manufacturing processes and economic considerations. Emphasis is on rational methods and the development of judgment in the design. 1 hr. rec., 6 hr. lab. Mr. Gencsoy and Mr. Hamilton

120. Engineering Thermodynamics. I. 3 hr. PR: Phys. 111 and Math. 108. First and second laws of thermodynamics; energy equations; properties of gases and vapors; gaseous mixtures and combustion. 3 hr. rec.
Mr. Slonneger and Mr. Warner

121. Thermodynamics of Engineering. I, II, S. 3 hr. PR: Physics 111, Math. 108. Principles of thermodynamics; properties of gases and vapors; vapor cycles; internal combustion engines cycles; refrigeration; and heat transfer. Not open to students majoring in mechanical engineering. 3 hr. rec.
Mr. Slonneger and Mr. Warner

122. Mechanical Laboratory. I, II. 1 hr. PR: M.E. 121. Experiments involving calibration of measuring instruments, calorific value of fuels, physical properties of lubricating oil and elementary tests of engines and boiler. 3 hr. lab.
Mr. Slonneger and Mr. Warner

124. Thesis. I, II. 2-4 hr. PR: Senior standing. Investigation or original research on some special topic relating to mechanical engineering. Staff

125. Engineering Thermodynamics. II. 3 hr. PR: M.E. 120 or consent of instructor. Continuation of M.E. 120; gas cycles; vapor cycles; thermodynamics of air-vapor mixtures; flow; turbo-machinery, compressors; refrigeration; and heat transmission. 3 hr. rec. Mr. Slonneger and Mr. Warner

132. Mechanical Laboratory. II. 2 hr. PR: M.E. 120. Experiments involving calibration of measuring instruments; fuels; power measurements; and performance tests of steam equipment. 3 hr. lab. Mr. Slonneger and Mr. Warner

203. Machine Design. II. 3 hr. PR: M.E. 113. Design of complete machines to perform given functions. Creative design is encouraged to provide new ideas. Final designs are selected to perform the function, be economical and easy to fabricate, and have a generally pleasing appearance. 1 hr. rec., 6 hr. lab.
Mr. Gencsoy and Mr. Hamilton

204. Mechanical Vibrations. I. 3 hr. PR: M.E. 112 and Math. 253, or consent of instructor. A study of vibrating systems and the application of such theory to mechanical systems and linkages. Subjects considered include theory of resonant systems; elimination of undesirable vibration; design of vibration instruments; transient excitations; periodic disturbing forces; self-excited vibration and instability in mechanical systems; critical speed phenomena and electrical analogs. 2 hr. rec., 3 hr. lab. Mr. Hamilton

205. Advanced Kinematics. II. 3 hr. PR: M.E. 112 and Math. 253, or consent of instructor. Advanced graphical and semigraphical treatment of velocities and acceleration. Further treatment of Coriolis' acceleration. Advanced analysis and design of cams, gears and unique linkages. Synthesis of mechanisms. 3 hr. rec. Mr. Hamilton

223. Steam Power Plants. I. 3 hr. PR: M.E. 125. Principles of design and operation of modern steam power plants for central stations and for process industries. Each student submits an individual design problem. 3 hr. rec. Mr. Cather

224. Steam Turbines. I, II. 3 hr. PR: M.E. 125. The theory of fluid dynamics and the thermodynamics of the modern turbines; materials, construction details and design of important elements; influences on economy of variations in cycles and operative ranges. 3 hr. rec. Mr. Cather

228. Engineering Laboratory. I. 1 hr. PR: M.E. 132. Continuation of M.E. 132. Experiments involving heat transmission; refrigeration; and internal combustion engines. 3 hr. lab. Mr. Slonneger and Mr. Warner

229. Internal Combustion Engines. I. 3 hr. PR: M.E. 121 or M.E. 125. The thermodynamics of the internal combustion engines; Otto cycle; Diesel cycle; two and four-cycle engines, fuels, carburetion and fuel injection; combustion; engine performance, supercharging. 3 hr. rec. Mr. Slonneger

230. Heat Transmission. II. 3 hr. PR: M.E. 125 or consent of instructor. Conduction, convection and radiation transmission; steady state and variable heat flow; application to design of heat transfer apparatus. 3 hr. rec. Mr. Slonneger

250. Heating, Ventilating, and Air Conditioning. II. 3 hr. PR: M.E. 125 or consent. Methods and systems of heating, ventilating, and air conditioning of various types of buildings, types of controls and their applications. 3 hr. rec. Mr. Cather

270. Industrial Lubrication. I, II. 3 hr. PR: M. 103 and M.E. 112. Characteristics of crudes, refining methods, testing specifications, selection, applications, and purification of oils and greases for industrial use. 3 hr. rec. Mr. Cather

280. Mechanical Problems. I, II. 1-6 hr. For juniors, seniors, and graduates. Staff

Graduate Division

303. Advanced Machine Design. I, II. 3 hr. PR: M.E. 203. Stresses in indeterminate machine parts, experimental stress analysis. Design for high temperatures, pressures and speeds. Bearings and lubrication. Rotating discs and elastic stability and high speeds. Residual stresses and creep. 3 hr. rec. Mr. Hamilton

320. Advanced Thermodynamics. I, II. 3 hr. PR: M.E. 125. Definitions and scope of thermodynamics, First and Second laws, Maxwell's relations, Calpeyron relations, equation of state, thermodynamics of reactive systems, availability. Mr. Slonneger

351. Advanced Internal Combustion Engines. I, II. 3 hr. PR: M.E. 229 or consent. Combustion in spark ignition engines; compression ignition engines; detonation; fuel-air ratios; heat losses; lubrication; efficiencies; two-stroke engines; four-stroke engines; performance, exhaust turbines, gas turbines. 3 hr. rec. Mr. Slonneger

352. Turbomachinery. I, II. 3 hr. PR: M.E. 121 or M.E. 125. A study of flow problems encountered in the design of water, gas and steam turbines, centrifugal and axial flow pumps and compressors, design parameters. Mr. Cather and Mr. Slonneger

354. Advanced Refrigeration. I, II. 3 hr. PR: M.E. 250. Thermodynamics of vapor cycles, refrigerants, fluid flow, heat transfer, psychrometrics, types of refrigeration and equipment required, application of refrigeration in industry, food preservation. 3 hr. rec. Mr. Cather

379. Seminar in Coal Research. I, II. 1 or 2 hr. PR: Consent. Credit 1 hr. per semester, maximum credit 2 hr. (In cooperation with other departments and the U.S. Bureau of Mines). Staff

397. Research. I, II. 1-6 hr. Investigation or original research on some topic relating to mechanical engineering. Mr. Cather and Staff

MECHANICS

Professors C. H. Cather and Worrell; Associate Professor Weaver; Assistant Professor Plants; Instructors Albright, Browning, and Bauld.

Undergraduate Division

M.

*101. Statics. I, II, S. 3 hr. PR: Math. 108 and Physics 111 (or reg. in Math. 108). Fundamental definitions and the concept of static equilibrium; systems of forces and couples; application to solution of trusses and frames; centroids and moments of inertia. 3 hr. rec. Staff

*102. Mechanics of Materials. I, II, S. 3 hr. PR: M. 101 and Math. 108. Stress and strain; riveted and welded joints; shafts and beams; deflection; statically indeterminate beams; column theory and design; non-homogeneous beams. 3 hr. rec. Staff

*103. Mechanics of Materials. I, II, S. 3 hr. PR: M. 102 and Math. 108. Combined stresses; fatigue; impact; creep and temperature effects; properties of materials; laboratory tests and the interpretation of the mechanical properties of materials. 2 hr. rec., and 3 hr. lab. Staff

*104. Kinetics. I, II, S. 3 hr. PR: M. 101 and Math. 108. Kinematics of a particle; moment of inertia of masses; translation, rotation and plane motion of rigid bodies; principle of work and energy, impulse and momentum; application to engineering problems. 3 hr. rec. Staff

200. Advanced Mechanics of Materials. I, II. 3 hr. PR: M. 103. Combined stress and theories of failure; thick wall cylinders; flat plates; unsymmetrical bending; curved flexural members; localized stress; strain-energy methods in the analysis of statically indeterminate members. Mr. Cather

201. Advanced Kinetics. I, II. 3 hr. PR: M. 101 and M. 104. Dynamic balancing; Corioli's Law; gyroscopes; governors; simple servo-mechanism; mechanical vibration. Mr. Worrell

202. Advanced Materials Laboratory. I, II. 2-4 hr. PR: M. 103. Continuation of M. 103 with emphasis on a selected problem or problems. Mr. Cather or Mr. Worrell

203. Experimental Stress Analysis. I, II. 3 hr. PR: M. 103 and M. 104. Introduction to some of the more common experimental methods of analyzing stress distributions. Photoelasticity, brittle lacquers, strain gage techniques and instrumentation, as applied to problems involving static, dynamic and residual stress distributions. 2 hr. rec., one 3 hr. lab. Mr. Worrell

Graduate Division

309. Statistical Applications in Mechanics. I, II. 3 hr. PR: M. 103. Statistical fundamentals and methods, application of statistics to testing of materials. Mr. Weaver

310. Applied Elasticity. I, II. 3 hr. PR: M. 200. Study of shear center, beam on continuous elastic support, torsion in non-circular sections, contact stresses, plastic strain, instability and buckling. Mr. Cather

320. Theory of Elasticity. I, II. 3 hr. PR: Math. 240 or 253, M. 200, 203. Equations of equilibrium and compatability; stress, strain and displacement relationships; applications to beams, curved members, rotating discs, thick cylinders, torsional members, plates and other structural and machine parts. Mr. Worrell

397. Research. I, II. 1-6 hr. Advanced research or special investigations on some topic related to mechanics. Mr. Cather or Mr. Worrell

Courses In The School of Mines

Professor Spindler; Associate Professor Laird; Assistant Professors McClung and Sandy.

Undergraduate Division

E.M.

102. Mine Surveying. I. 5 hr. PR: E.M. 103. Continuation of and supplementing E.M. 103; intensive field practice in underground and surface surveying. Should be taken during summer term immediately following semester in which E.M. 103 is taken. (Laboratory and field work.) Mr. Laird and Mr. McClung

103. Mine Surveying. I, II. 3 hr. PR: M.E. 26 and Math. 5. Principles of surface and subsurface surveying, celestial observations, and related calculations. Field practice using transit and level. 2 hr. rec., 3 hr. lab. Mr. Laird

106. Mineralogy. II. 2 hr. PR: Chem. 10 or 15. Mineral identification, blowpipe analysis of minerals; occurrence, geographic distribution, and utilization of minerals; elements of crystallography. Two 3 hr. labs. Mr. Laird

107. Mining Methods. I. 4 hr. PR: Physics 112 and Geol. 1. Inspection and evaluation of mining properties, mining methods and systems of mining, roof control, and operating characteristics of mining machinery. Inspection trips with written reports required. 3 hr. rec., 3 hr. lab. Mr. McClung

109. Coal Analysis Laboratory. I, II. 1 hr. PR: Chem. 10. Sampling, preparation of laboratory samples, and analysis of coal. 3 hr. lab. Mr. Sandy

111. Introductory Mining. I, II. 2 hr. PR: Chem. 10 and Phys. 112. Explosives, timbering, drilling, and shaft sinking. 2 hr. rec. Mr. Sandy

201. Oil Field Development. I. 2 hr. PR: Geol. 3. Introduction to principles, equipment, and methods applied to development of an oil property. 2 hr. rec. Mr. Laird

203. Petroleum Property Valuation and Management. II. 2 hr. PR: E.M. 204. Petroleum property valuation and acquisition; economic, governmental and social aspects of management of oil and gas properties. 2 hr. rec. Mr. Laird

204. Oil and Gas Production. II. 4 hr. PR: E.M. 201. Continuation of E.M. 201 with core analysis, drilling mud testing, and oil testing laboratory. 3 hr. rec., 3 hr. lab. Mr. Laird

205. Gas Measurement Engineering. II. 2 hr. PR: E.M. 201 and C.E. 115. Methods of commercial gas measurement and pressure regulation with a laboratory devoted to use of various types of equipment. 1 hr. rec., 3 hr. lab. Mr. Laird

207. Introductory Seismology. I, II. 1 hr. PR: Phys. 112. Earthquakes and their causes and area distribution; theory of elastic waves; the principles of seismograph construction, adjustment, and operation; interpretation and calculation of seismograms with exercises provided by records of the University seismograph station. 1 hr. rec. Mr. Laird

208. Geological Surveying. II. 1 hr. PR: E.M. 103 and Geol. 161. Topographic mapping with the plane table. 3 hr. field. Mr. Laird

209. Mineral Preparation. I, II. 2 hr. PR: E.M. 212 and M. 104 or consent. Principles of preparation, beneficiation and concentration of metallic and nonmetallic ores for further processing or utilization. Not open to students with credit in E.M. 217. 2 hr. rec. Mr. Sandy

210. Mineral Preparation Laboratory. I, II. 1 hr. PR: E.M. 209 or concurrent registration in E.M. 209. Laboratory exercises and practice in sampling, screen analyses, float and sink separation, assembly and interpretation of test data, and the use of various types of beneficiation equipment. 3 hr. lab. Mr. Sandy

212. Advanced Mining. II. 3 hr. PR: E.M. 111 and E.E. 106. Engineering principles, methods and equipment applied to mine transportation, hoisting, and drainage. 3 hr. rec. Mr. McClung

213. Mine Ventilation. I. 3 hr. PR: E.M. 107 and M. 104. Principles, purposes, methods and equipment pertaining to the ventilation of mines. 2 hr. rec., 3 hr. lab. Mr. Spindler

214. Mine Valuation. I, II. 3 hr. PR: Econ. 2 and E.M. 107 or consent of instructor. Mineral property evaluation, sampling and estimation of mineral deposits, capitalized costs in mining and recovery of investment, analysis of mining costs, cost control and time analysis of mining operations. 3 hr. rec. Mr. Sandy

215. Industrial Safety Engineering. I, II. 2 hr. PR: Senior standing. Analysis of problems of industrial safety and accident prevention, laws pertaining to industrial safety and health, compensation plans and laws, and industrial property protection. 2 hr. rec. Mr. Sandy

216. Petroleum Engineering Design. I. 2 hr. PR: E.M. 204. Structural and machine analysis and design as related to the production and transportation of oil and natural gas. Two 3 hr. labs. Mr. Laird

217. Coal Preparation. I, II. 4 hr. PR: E.M. 212, E.M. 109, and M. 104. Principles of preparation and beneficiation of coal for marketing, with laboratory devoted to sampling, screen analyses, float and sink separation, and use of various types of coal-cleaning equipment. 2 hr. rec., two 3 hr. labs. Mr. Sandy

218. Advanced Mineral Preparation. I, II. 3 hr. PR: E.M. 106, E.M. 217. The theory and practice of concentrating ores and industrial minerals with special consideration to the more recent advances in the beneficiation of both ores and coal. 2 hr. rec., 3 hr. lab. Mr. Sandy

219. Advanced Mining Methods for Vein Deposits. I, II. 3 hr. PR: E.M. 107, M. 104. Methods and systems of mining other than flat seams. Emphasis placed on selection of methods in relation to cohesive strength of ore bodies and their enclosing wall rocks. Mining of anthracite seam included. 3 hr. rec. Mr. Sandy

220. Mine Design. I, II. 2 hr. PR: E.M. 212 and registration in C.E. 122. Design of an underground mining development with full report. Two 3 hr. labs. Mr. Spindler and Mr. McClung

221. Mine Design. I, II. 3 hr. PR: E.M. 220. Continuation of E.M. 220 including design of preparation plant and loading facilities with full report covering plan, equipment, operation, and costs. Three 3 hr. labs. Mr. Spindler and Mr. Sandy

222. Mine Equipment and Machinery. I, II. 3 hr. PR: E.E. 105 and E.M. 212. Selection, installation, operation, and maintenance of mining equipment. 3 hr. rec. Mr. McClung

223. Mine Management. II. 3 hr. PR: E.M. 212 and senior standing. Economic, governmental, social, and labor aspects of mining as related to the management of a mining enterprise. 3 hr. rec. Mr. Spindler

224. Mining Engineering Problems. I, II. 1 to 6 hr. PR: Senior or graduate standing. Investigation and detailed report on a special problem in mining engineering related to coal mining, mineral mining, or geological, petroleum, and natural gas engineering. Supervision and guidance by a member of the graduate faculty. Staff

226. Advanced Mining Equipment Applications. I. 3 hr. PR: E.M. 222. Structural, mechanical, hydraulic and electrical characteristics of the more common items of mining equipment. Controls, electrical and hydraulic circuits, and mechanical transmissions with associated problems. Laboratory design of a control system for a mining machine. 2 hr. rec., 3 hr. lab. Mr. McClung

227. Mine Power Applications. I. 2 hr. PR: E.M. 222 or consent. Underground transmission systems, electrical controls for mining machinery, alternating current applications in coal mining, power costs and safety features. 2 hr. rec. Mr. McClung

228. Mine Equipment and Machinery Controls. II. 3 hr. PR: E.M. 277 or consent. Principles, application and use of electric and hydraulic devices and circuits for protection and control of mine machinery and equipment. 3 hr. rec. Mr. McClung

230. Elements of Geophysical Prospecting. I. 3 hr. PR: Geol. 151, Phys. 112. Methods, instruments and calculations for geophysical prospecting. 3 hr. rec. Mr. Laird

231. Geophysical Prospecting Laboratory. I. 1 hr. PR: E.M. 230 or concurrent registration in E.M. 230. Field and laboratory use of instruments used in geophysical prospecting. 3 hr. lab. and field. Mr. Laird

232. Petroleum Reservoir Engineering. II. 2 hr. PR: E.M. 204. Reservoir evalutions utilizing statistical analyses and subsurface data as related to a producing oil or gas field, a gas storage field, or a secondary recovery project. 2 hr. rec. Mr. Laird

233. Theory and Practice of Coal Preparation. S, I. 4 hr. PR: Phys. 112, Math. 108, or consent. Theory of coal beneficiation processes and the design, operation, and control of coal preparation plants. Includes the theory and practice of sampling, crushing, sizing, cleaning, and drying of coal, the operation and maintenance of coal washing and auxiliary equipment, materials handling, plant efficiencies and quality control. The laboratory work consists principally of the determination of the cleanability characteristics of coal, interpretation of gravity separation data, chemical analysis, and the operation of typical coal washing equipment. Not open to students taking E.M. 217. 4 hr. rec., 4 hr. lab. Mr. Sandy

Graduate Division

301, 302. Advanced Mine Design. I, II. Credit arranged. Advanced detail design and layout of coal mine plant, particularly incorporating new ideas of machines and mining methods. Staff

351. Coal Mining. SI. 3 hr. PR: Chemistry, 10 hr., Physics, 8 hr., and accompanied or preceded by general geology. Especially for students who are planning to teach mining subjects in high school. Not open to students taking E.M. 102, 111, or 212. Hours arranged. Staff

379. Seminar in Coal Research. I, II. 1 or 2 hr. PR: Consent. Credit 1 hr. per semester, maximum credit 2 hr. (In cooperation with other departments and the U.S. Bureau of Mines.) Staff

395, 396. Graduate Seminar in Coal Mine Operation and Administration. I, II. 3-6 hr. PR: B.S. Degree and consent of Committee. Group discussion and analysis of problems related to the production, preparation, marketing, and utilization of coal with special assignments and emphasis in accordance with personal background and field of interest of the individual student. Staff

397. Research. I, II. Credit arranged. Individual problem in some phase of mining. Carefully prepared report required. Staff

RESEARCH AND EXTENSION

THE ENGINEERING EXPERIMENT STATION

Professor W. A. Koehler, Director.

The chief functions of the Engineering Experiment Station are to encourage and carry on research and investigations that will enhance the industrial and economic welfare of the people of West Virginia; to make original contributions to the fundamental principles and knowledge along scientific and engineering lines; and stimulate and train graduate students in research activities.

The research undertaken by the Station therefore is primarily concerned with investigations in the production, processing, and utilization of the natural resources of West Virginia; investigations that will aid existing industries and promote the development of new industries in the State; and investigations that will aid in the planning, design, and development of the public works of the State. As a consequence of this program, the subjects receiving particular attention by the staff of the Station are coal, oil, gas, clays, stone, sand, timber, water, steam and electric power, sewerage, sanitation, road building, transportation, aeronautics, and communications.

The Station will assist in compiling surveys and in conducting investigations of the industrial requirements and possibilities of any region or community in the State. It cooperates with the West Virginia University Agricultural Experiment Station, State Road Commission, State Geological and Economic Survey, State Water Commission, U. S. Bureau of Mines, national engineering societies, and state or national agencies whose assistance may promote the more effective fulfillment of the Station's functions.

To aid State industrial organizations that lack funds, facilities and personnel to undertake important research investigations which arise in the development of their operations, the Station stands ready, where time and facilities permit, to assist in the prosecution of investigations on their fundamental problems. Such advisory services are free, but any special equipment, materials, or labor that may be needed must be supplied by the organization for which the work is being done. Several companies and technological associations are sponsoring research fellowships in the Station.

The staff of the Station includes part-time services of several of the teaching members of the faculties of the College of Engineering and the School of Mines, as well as a few full-time research engineers and chemists and part-time graduate student research assistants.

The results of the studies, surveys, investigations, and researches of the Experiment Station are published in bulletin form. Two series of bulletins are issued; to date there are 26 numbers in the Research series and 53 in the Technical series. The Technical Bulletins contain certain selected papers from the Proceedings of the Annual State Water Purification Conferences, the State Coal Conferences, the Appalachian Gas Measurement Short Courses, the Appalachian underground corrosion Short Courses, and the Industrial Engineering Conferences. A list of publications and copies of the bulletins may be obtained upon application to the Director of the Engineering Experiment Station.

U.S. BUREAU OF MINES STATION

The United States Bureau of Mines maintains laboratory and pilot-plant facilities for research and development work on the production of synthesis gas from coal, which is part of the Bureau's over-all program for synthetic fuel development.

Under the terms of a cooperative agreement between the University and the Bureau, students are employed by the Bureau on a part-time basis.

A limited number of graduate students may be appointed as Bureau of Mines Fellows to work on research problems of interest to the Bureau. With the approval of the student's theses advisory committees, the problems may also be accepted as research for theses requirements. The students so selected have an opportunity to work under the joint supervision of government experts and University staff members.

In the selection of part-time student workers, preference is given to those in the upper one-third of their class.

The Bureau staff also conducts a graduate seminar in coal research. In this seminar, research problems and methods are discussed, with special reference to applications to the Bureau's current problems.

MINING AND INDUSTRIAL EXTENSION

The Department of Mining and Industrial Extension in the School of Mines conducts courses of instruction in practical subjects in various sections of the State where groups of individuals wish to study and receive training in subjects pertaining to their everyday work. The Department also aims to disseminate useful knowledge which has been amassed by research studies at the University to all citizens in the State, and in this way to bring the University and its opportunities for learning to various groups of students who desire to enroll in its extension department. Information and special announcements pertaining to Extension courses may be obtained by writing to the Department of Mining and Industrial Extension, West Virginia University, Morgantown.

Short Course in Coal Mining

The Short Course in Coal Mining offered by the Department of Mining and Industrial Extension gives an opportunity to operators, officials, and employees of mining companies to obtain instruction pertaining to their work. The subjects covered in the short course are: explosives, methods of mining, timbering, mine gases, mine ventilation, hoisting, mine drainage, safety lamps, mine management, electricity in mines, mine fires and explosions, organization and administration, mining arithmetic, and elementary drawing. Tuition is free.

Special attention is given to students desirous of preparing themselves for the teaching of mining classes under the Smith-Hughes and George-Dean Acts.

At the close of the short course the West Virginia Department of Mines conducts an examination for mine foremen and fire bosses.

The forty-seventh annual Short Course in Coal Mining will begin Monday, July 6, 1959, and continue until Friday, August 28, 1959.

Short Course in Coal Preparation

The ninth annual Short Course in Coal Preparation conducted by the University will begin Monday, June 8, 1959, and continue until Tuesday, July 14, 1959. This course is held principally for men who have been associated with the sizing and preparing of coal for market.

The classroom portion of the course covers the purpose of coal preparation, breaking and crushing, screening, cleaning, analysis of float and sink tests and washability curves, dewatering and drying, dedusting and dust collection, recovery of fines, auxiliary equipment, treatment of coal surfaces, loading, cost, power, water, and labor and analysis of flow sheets.

In the laboratory, the equipment includes a sand media cone, Baum jig, calcium chloride washer, heavy media cone washer, concentrating tables, basket jigs, air cleaning table with filter-type dust collectors, magnetic separator, centrifuges, and a complete closed-circuit mineral flotation unit. These units are all self-contained pilot units with auxiliary equipment to permit complete test operation.

Short Course in Mine Equipment and Maintenance

The seventh annual session of the Mine Equipment and Maintenance Short Course will begin Monday, July 6, 1959, and continue until Friday, August 28, 1959. This course is offered to persons whose interest is in the maintenance of coal mining equipment. The subjects covered in this short course are: practical mechanics, equipment hydraulics, equipment electricity, shop mathematics, lubrication, electricity and hydraulic measurements, electrical controls, underground mining equipment, substation and fan maintenance, preparation plant maintenance, and maintenance reports and records.

Vocational Courses Offered in Extension

Courses in foreman training and other special courses for those in industry are offered in centers where there is sufficient interest. The instruction in these courses is carried on by the University extension instructors who visit each center every week.

At the present, the work is planned on a four-year basis to cover mine gases, safety lamps, ventilation, timbering, explosives, haulage, prevention of mine accidents, mine waste, drainage and pumping, mining methods, foremanship, electricity, mine fires and explosions, and coal geology. In each of these unit courses, particular emphasis is placed on safety features, state mining laws, and application of arithmetic to solving mining problems.

In addition to the above, special classes are offered in such subjects as effective speaking, group discussion, mine equipment and maintenance, mine surveying, and other selected subjects for which there is local demand.

Appalachian Gas Measurement Short Course

The Appalachian Gas Measurement Short Course, held annually on the campus, is conducted by the University in cooperation with the Public Service Commission of West Virginia, the West Virginia Oil and Natural Gas Association, manufacturers of gas measurement and regulation equipment, public utilities, and industries producing, marketing, or consuming natural gas in West Virginia and neighboring states. The course provides instruction in the theory and practice of gas measurement and regulation, and is designed to be of interest to executives and officials of gas companies as well as to meternen.

The dates for the 1959 Short Course in Gas Measurement will be announced. Additional information will be available from the School of Mines, West Virginia University.

Fire Service Extension Schools

The twenty-ninth annual West Virginia State Fire School, conducted by the University in cooperation with the State Fire Marshal and the West Virginia Inspection Bureau, will meet on the campus from July 20 to 24, 1959. It affords information on new developments and intensive training in fundamentals of fire fighting to members of the fire service in the State. A permanent fire protection research and training center is maintained on the campus in cooperation with the office of the State Fire Marshal.

In addition, the University, in cooperation with the Vocational Division of the State Department of Education, offers the Firemen's Extension Course to fire departments in West Virginia. The course may be had upon application, by the chief, of any organized municipal or industrial department.

Instructional material covers such subjects as local water supply and distribution, apparatus and equipment, principles of combustion, portable extinguishers, hydraulics, pump operation, respiratory apparatus, hose and ladder practices, flammable liquids and gases, fire fighting tactics, property inspections, and fire prevention education.

Classes meet once a week for a period of twenty-nine weeks, beginning about the first part of October, and are taught by local instructors. Approximately one-fifth of the total class time is devoted to actual fire department evolutions.

Appalachian Underground Corrosion Short Course

The fourth annual corrosion short course for the Appalachian area will meet on the campus on June 2, 3 and 4, 1959. The Short Course affords an opportunity for personnel concerned with underground corrosion to add to their knowledge of the subject and learn of new developments in this field. This course is sponsored by the School of Mines.

Further information on this program may be obtained from the School of Mines, West Virginia University.

Petroleum and Natural Gas Extension Courses

In cooperation with the petroleum and natural gas industry, the Industrial Extension Department offers a five-year course of study in this subject at various locations throughout the State.

Course I is of a preparatory nature, and includes a review of mathematics and the principles of physics and mechanics. Course II covers such topics as the properties of natural gas, fluid flow, gas measurement, and gas transmission. Course III includes meter testing, pressure regulation, and compression. Course IV treats the principles of combustion and gas storage, while Course V covers general geology, the geology of gas and oil, and production practices.

Classes are organized in September and meet weekly for a period of approximately eight months. Instructors are employed on a part-time basis by the University and are selected for technical training, ability, and industrial experience in the subjects which they will teach.

Industrial Engineering Conference

The tenth annual Industrial Engineering Conference, sponsored by the College of Engineering and the School of Mines, will be held at the University on April 13 and 14, 1959. The Conference is designed to promote the dissemination of information on industrial engineering principles and techniques, looking toward increased efficiency and reduced costs in industrial processes. Specialists in various fields will present papers and lead discussions in problems related to specific subjects.

The Graduate School

GENERAL INFORMATION

By the order of the Board of Governors of West Virginia University, a University Graduate School is established, whose roots are implanted in all University undergraduate work, irrespective of departments or schools. The Graduate School is empowered (1) to direct research and investigation with particular reference to problems of the State, and (2) to train and recommend to the Board of Governors candidates for the degrees of Master of Science, Master of Science (Home Economics Education), Master of Science in the various Engineering branches, Master of Arts, Master of Music, Master of Social Work, Master of Agriculture, Master of Home Economics, Doctor of Philosophy, and Doctor of Medicine.

The University's Kanawha Valley Graduate Center of Science and Engineering, located at Institute, was established in 1958. Courses leading to the master's degree in chemistry, chemical engineering, and mechanical engineering are available at the Center.

All regulations governing the Graduate School such as the determination of curricula, projects, majors, minors, standards, thesis requirements, and similar matters shall be formulated by the Executive Committee and the Dean of the Graduate School and presented to the Graduate Faculty for its consideration and action.

THE STUDENT BODY

Seniors in the colleges of West Virginia University who are within 10 semester hours of graduation may, with the approval of the Dean of the Graduate School, enroll for graduate courses for which they may receive graduate credit after obtaining their bachelors' degrees. Such graduate courses must not have been offered for undergraduate credit, and in every case permission must have been requested before or at the time of enrolling for the course or courses. Normally, the maximum amount of credit available to a senior by petition in this manner before he completes all requirements for the baccalaureate degree and gains admission to the Graduate School shall be 15 semester hours.

THE ADVISER

The adviser will arrange a specific course of study to be approved by the Dean and, in the case of candidates for advanced degrees, will preside at the candidate's qualifying and final examination.

THE FACULTY

The Graduate Faculty is composed of those faculty members who are actively assisting with any phase of the graduate program such as teaching graduate courses, directing graduate research, supervising thesis and problem work, advising graduate students and directing their graduate studies. Membership is by appointment by the Dean of the Graduate School following certification by the Executive Committee. Deans and Directors of the various colleges and schools and the President of the University are members ex officio.

GRADUATE DEGREES

Graduate degrees offered by the departments in the University which have been approved for graduate work are as follows:

Master of Agriculture (M.Agr.)
Master of Arts (A.M.)
Master of Home Economics (M.H.E.)
Master of Music (Mus.M.)
Master of Science (M.S.)
Master of Science in Aeronautical Engineering (M.S.A.E.)
Master of Science in Agricultural Engineering (M.S.Agr.E.)
Master of Science in Chemical Engineering (M.S.Ch.E.)
Master of Science in Civil Engineering (M.S.C.E.)
Master of Science in Electrical Engineering (M.S.E.E.)
Master of Science in Industrial Engineering (M.S.I.E.)

Master of Science in Mechanical Engineering (M.S.M.E.)
Master of Science in Mechanics (M.S.MECH.)
Master of Science in Engineering of Mines (M.S.E.M.)
Master of Science in Nuclear Engineering (M.S.N.E.)
Master of Science in Home Economics Education (M.S.H.E.E.)
Master of Social Work
Doctor of Philosophy (Ph.D.)
Doctor of Education (Ed.D.)

GRADUATE CERTIFICATES

Graduate Certicates offered by certain departments or divisions of the University are:

Certificate of Advanced Study in Education
Professional Certificate of Social Work

PROFESSIONAL DEGREES

The following professional degrees are conferred upon graduates of the College of Engineering and the School of Mines of West Virginia University on the basis of practical experience and study in absentia, the presentation of a thesis, and an oral final examination.

Acronautical Engineering (A.E.)
Engineer of Mines (E.M.)
Mechanical Engineer (M.E.)
Chemical Engineer (Ch.E.)
Civil Engineer (C.E.)
Electrical Engineer (E.E.)

REQUIREMENTS FOR THE GRADUATE DEGREE

General Regulations

1. CANDIDACY

Admission to candidacy for any graduate degree is conditioned upon the fulfillment of the requirements for admission to the Graduate School, and also the particular requirements of under graduate and graduate preparation for the field of study in which the student wishes to specialize. Unconditional admission to candidacy for an advanced degree involves a suitable period of graduate work in residence in which the student demonstrates his ability to do work of graduate caliber. Detailed information concerning candidacy for the Master's Degree and the Doctor's Degree may be found on the pages immediately following.

2. SCHOLARSHIP

No credits are acceptable toward an advanced degree which are reported with a grade lower than "C."

Reasonable standards of oral and written English must be maintained.

3. CURRICULUM

Credit toward a graduate degree may be obtained only for courses listed in this *Catalog* and numbered 200-399.

No more than 15 hours of graduate courses in any one semester nor more than 6 hours of graduate courses in any one term of the Summer Session may be carried by a student. Any exception to this rule must be approved in advance by the Dean of the Graduate School.

4. RESIDENCE AND EXTENSION

Residence credit for special field assignments and for work taken off the University campus shall be allowed only with prior approval of the Dean.

No more than 15 hours of extension work may be counted by any one student toward the Masters Degree.

For majors in Education, no more than 12 hours by extension may be counted toward the Master's Degree and of these 12 no more than eight hours may be obtained before the student completes at least six hours in residence on campus.

Full-time in-service teachers may obtain no more than nine semester hours of credit toward the Masters Degree in any one academic year.

The maximum credit that students pursuing graduate work by extension may receive in any one field shall be 8 semester hours.

No more than 6 hours of graduate credit obtained in other approved institutions may be considered in meeting the requirements for the Master's Degree at West Virginia University.[1] Graduate credits so accepted toward the Master's Degree must meet the usual departmental requirements for a continuous and unified program of graduate study and will reduce correspondingly the number of hours of graduate work by extension offered in West Virginia University extension centers that may be offered in meeting the requirements for the Master's Degree.

No credits earned by extension prior to the admission of the student to graduate work and acceptance for graduate study may be counted toward meeting the requirements for the Master's Degree. This rule shall not apply to seniors in West Virginia University within ten hours of graduation who petition for graduate credit for courses not used to meet undergraduate requirements.

Each graduate student in residence, whether taking course work or engaged in conducting research or in writing a thesis or report, must register at the beginning of each semester or term during which graduate work is being done. He must be registered during the session in which he is to appear for final examination. Under exceptional conditions and with the prior approval of the Dean a graduate student may be permitted to meet a portion of the requirements for the degree in absentia, provided the customary residence and other requirements are met.

5. LIMITATION OF CREDIT LOADS FOR PART-TIME GRADUATE STUDENTS

Part-time graduate sutdents will be required to reduce their credit loads in proportion to the outside service rendered and the time available for graduate study. In general, persons in full-time service to the University or other employer will not be permitted to enroll for more than 6 hours of work in any one semester or to obtain credit for more than 12 hours in any one academic year. In corresponding manner the maximum credit load for a single summer term of six weeks shall be 3 hours. Maximum credit loads for students who are employed are:

	MAXIMUM CREDIT LOAD[2]	
Basis of Employment	*Per Semester*	*Per Summer Term of Six Weeks*
Full-time employees	6	3
Three-fourths-time employees	6	3
Half-time employees	12	4
One-fourth-time employees	15	5

Part-time students employed on a basis other than those listed will be permitted credit loads in relative amounts.

6. THESES AND PROBLEM REPORTS

All theses and problem reports shall be presented in the form prescribed at least one month previous to the Commencement Day on which the degree is expected. If the thesis or problem report is accepted, typewritten and bound copies shall be submitted to the Office of the Graduate School at least one week before the degree is to be conferred; a minimum of five copies of the master's thesis and doctor's dissertation, or four copies of the problem report, is required.

7. FINAL EXAMINATIONS

The candidate shall not be eligible for the final examination until his thesis or problem report has been approved by the examining committee. Following approval

[1]This regulation applies to all masters' degrees based upon a total credit requirement of 30 to 46 semester hours. The degree of Master of Social Work is based upon a total credit requirement of 54 to 60 semester hours, 24 to 30 of which may be transferred under suitable conditions, but the last 30 of which must be earned and completed in West Virginia University.

[2]Right to petition. Under unusual circumstances credit loads in excess of those indicated may be permitted upon approval of a petition submitted in writing by the student. Such petitions must be submitted prior to enrollment for the excess credit load.

of the candidate's thesis or problem report and satisfactory completion of the courses in residence and satisfaction of other graduate requirements, he shall be given a final examination by his advisory committee. Examining committees for theses and for final examinations for advanced degrees shall contain no fewer than three members for candidates for the Master's degree, and no fewer than five members for candidates for the Doctor's degree. In order to have his thesis accepted or to be considered as having satisfactorily passed his examination, the candidate shall have no more than one unfavorable vote in each case.

8. REQUEST FOR DEGREE

At the time of registration for the semester or session in which the candidate expects to receive a graduate degree, he shall submit a formal request to the Dean of the Graduate School for the conferring of such degree. The candidate must have completed all requirements for the degree which he wishes to receive, at least one week before Commencement Day.

9. COMMENCEMENT ATTENDANCE

Candidates for degrees to be conferred at the close of the second semester are expected to be present in person to receive their degrees.

The Degree of Master of Arts and Master of Science†

REQUIREMENTS FOR CANDIDACY

Satisfactory fulfillment of General Regulation No. 1 for graduate degrees (stated on page 332) will admit an applicant to candidacy.

REQUIREMENTS FOR COMPLETION

The completion within a period of seven years[3] immediately preceding the conferring of the degree, except with the permission of the Dean, of no less than 30 credit hours of graduate work approved by the adviser.

Residence: A minimum is required of two semesters, or one semester and three summer terms, or five summer terms of residence in full-time graduate study at West Virginia University. For students offering 15 credit hours in extension, a minimum period of residence at West Virginia University of one semester or three summer terms shall be required for the Master's Degree.

Program: In general, when a thesis is offered, the program will consist of 24 hours or more of suitable course work and 1 to 6 hours of thesis or research.

Thesis or Problem Report: A thesis or problem report granting no more than 6 hours of credit may be required by the faculty of the college, school, or department in which the candidate's major interest lies.

Final Examination: An examination, oral or written or both at the option of the candidate's examining committee, shall be required, covering the candidate's thesis or problem report, studies in his major and minor fields, and his ability to apply facts and principles.

Special Requirements: The candidate must meet the special requirements of the department in which he pursues his major study.

†Major and minor work toward the master's degree is offered by most of the departments and divisions of the University. For a list of these see the **Announcements of the Graduate School.**

[3]This ruling was discontinued temporarily during the war period. It was reinstated, effective June 1, 1948, as follows:

Beginning with the first summer term of 1948, the seven-year rule will again be put into effect with the provision that, in the cases of students who have already started their graduate programs, the adviser and the Dean of the Graduate School will determine whether work taken before the seven-year period shall be accepted for credit. If the adviser and the Dean cannot agree, the case shall be brought before the Executive Committee for review. In the event that a graduate student began work during the war period, an extension up to a maximum of five years may be granted.

The Degrees of Master of Agriculture and Master of Home Economics

Requirements: The requirements for and regulations governing the granting of these two degrees are the same as those for the degree of Master of Science with the following exceptions:

1. Candidates for the degrees of Master of Agriculture and Master of Home Economics shall have previously completed the requirements for the degree of Bachelor of Science in Agriculture or Bachelor of Science in Home Economics, or their equivlents.
2. A research thesis shall not be required, but a problem report on some phase of agriculture or home economics shall be required. Not more than three semester hours of credit may be allowed for the problem report, which must be approved by the student's committee. The report must be submitted in the form prescribed by the regulations of the Graduate School.
3. The program of work shall be such that the emphasis will be on breadth of knowledge in the field of agriculture or home economics, as the case may be, rather than upon study in one narrow field of science. To insure such breadth of training, the student must take work in at least five subject matter fields. Not more than ten credits from other colleges in the University will be accepted.
4. Special regulations may be made by the subject matter division concerned, and approved by the Dean of the Graduate School.

The Degree of Master of Social Work and the Professional Certificate of Social Work

REQUIREMENTS FOR THE DEGREE OF MASTER OF SOCIAL WORK

The degree of Master of Social Work is conferred by the University upon those students satisfactorily completing the requirements as established by the Graduate School. These requirements are:

1. Broad pre-professional training including not fewer than 24 hours of undergraduate work in the social sciences.
2. Completion of graduate courses approved by the Department of Social Work totaling not fewer than 54 semester hours, of which the last 30 hours shall have been completed in West Virginia University. In most cases the total program will range from 54 to 60 hours in order that the student may obtain 6 to 12 hours of elective work in the social sciences.
3. Completion of 20 semester hours or two full semesters of supervised field work under faculty direction.
4. Completion of a problem report.
5. Demonstration of competency in the theory and practice of social work to the satisfaction of the faculty of the Department. This will include passing with a satisfactory grade a comprehensive final examination, which may be oral or written, or both, at the discretion of the Department. The degree will not be awarded solely for credits earned.

For most students the requirements for the degree of Master of Social Work can be met in one year after completion of the requirements for the certificate.

REQUIREMENTS FOR THE PROFESSIONAL CERTIFICATE OF SOCIAL WORK

The Professional Certificate of Social Work is awarded to students who may wish to have certification that they have completed approximately half of the training required for the Master of Social Work Degree. The requirements for the Certificate of Social Work are: completion of 30 semester hours of graduate social work courses, including at least 10 semester hours of field work; and satisfaction of all other requirements of the Graduate School. The Certificate can normally be earned in two semesters and a summer term of six weeks.

INTERDEPARTMENTAL PROGRAMS

Master of Science (M.S.) With a Major in Industrial Relations

Requirements for Admission:

In addition to the general requirements of the Graduate School it is required, also, that the student have a minimum of 21 semester hours of undergraduate work

in the social sciences, including three hours in Statistics.

Requirements for Completion:

The candidate must fulfill the general requirements of the Graduate School for the degree of master of science including

1. Industrial Relations 330. Seminar in Industrial Relations. 3 hours.
2. Industrial Relations 340. Thesis. 6 hours.
3. A minimum of 15 approved hours to be chosen from certain specified courses in economics, law, management, industrial engineering, engineering of mines, political science, psychology, social work, and sociology.
4. A sufficient number of approved electives to bring the total program to no fewer than thirty semester hours.
5. A grade-point average of 3.0 in all course work except Industrial Relations 340.

For details see the *Announcements of the Graduate School.*

Master of Science (M.S.) With a Major in Rehabilitation Counseling

A joint program in education, psychology, and social work leading to the degree of Master of Science with a major in rehabilitation counseling.

Requirements for Admission:

A broad liberal arts training including no fewer than 24 semester hours, or equivalent, in economics, education, history, philosophy, political science, pre-social work, psychology, or sociology, of which there shall be a concentration of at least 12 semester hours in one of these fields.

Requirements for Completion:

1. Completion of an approved program totaling not fewer than 42 semester hours. In most cases the program will range between 42 and 48 hours.
2. Completion of 10 to 12 semester hours of supervised field work under faculty direction in a rehabilitation setting.
3. Demonstration of competence in the theory and practice of rehabilitation counseling.

A thesis will not be required but the degree will not be awarded solely for credits earned.

The curriculum will include a minimum of

1. six semester hours in counseling,
2. five hours in objective evaluative techniques,
3. two hours in occupational information,
4. six hours in the dynamics of human behavior,
5. three hours in community organization,
6. thirteen hours in rehabilitation

(Total of required courses, 35 semester hours), and

7. seven to thirteen hours of electives.

For details see the *Announcements of The Graduate School.*

The Certificate of Advanced Study in Education

Requirements:

This is a distinct and terminal program including one full year of graduate study beyond the Master's Degree. The program is open to school administrators, supervisors, counselors, and teachers who furnish evidence of significant and appropriate teaching experience or closely allied educational work. The requirements for the certificate are: completion of 30 approved semester hours in residence earned after the conferring of the Master's Degree, including 6 to 12 semester hours of research. Persons expressing a desire to pursue the program leading to the certificate must satisfy a College of Education faculty committee on prerequisites.

The Degree of Doctor of Philosophy

Requirements for Candidacy

Admission to the Graduate School and enrollment in graduate courses does not of itself imply acceptance of the applicant for a Doctor's Degree. After a period of

residence the applicant will be admitted to a comprehensive preliminary or qualifying examination (either oral or written or both) in which he must demonstrate (a) a grasp of the important phases and problems of the field of study in which he proposes to major and an application of their relation to other fields of human knowledge and accomplishments, (b) the ability to employ rationally the instruments of research that have been developed in his major field, and (c) the ability to read French and German in a satisfactory manner.[4]

When an applicant has successfully passed his qualifying examination he will be formally promoted to candidacy for the Doctor's Degree. Admission to candidacy must precede the final examination for the Doctor's Degree by at least one academic year. Graduate courses pursued in fulfillment of the requirements for the Master's Degree, if of suitable character and quality, may be credited toward the doctorate.

REQUIREMENTS FOR COMPLETION

(a) *Curriculum*: The Degree of Doctor of Philosophy is not awarded for the mere accumulation of course credits nor for the completion of a definite residence requirement. The exact amount and nature of course work to be undertaken by a candidate will be determined in light of his previous preparation and the demands of his chosen field of application. The aggregate of correlated courses of graduate instruction, should, however, be no less than 60 semester hours, exclusive of research or thesis, except research or thesis credits earned for the Master's Degree. These credits shall be ordered and distributed so as to promote broad and systematic knowledge and the ability to carry on independent research.

(b) *Residence*: In general, the requirements for the degree of Doctor of Philosophy contemplate at least three years of full-time graduate work beyond the Bachelor's Degree. A minimum of 36 weeks in residence in full-time graduate study at West Virginia University is required.

(c) *Thesis*: The candidate must submit a thesis pursued under the direction of the faculty of this University on some problem in the field of his major interest. The thesis must present the results of the candidate's individual investigation and must embody a definite contribution to knowledge.

(d) *Special Requirements*: The candidate must satisfy such special requirements, subject to approval of the Dean of the Graduate School, as may be required by the faculty of the college or department in which his major lies. All required examinations in modern languages shall be taken not later than one academic year before the final examination for the degree.

(e) *Final Examination*: If the candidate's thesis is approved and he has fulfilled all other requirements stated above, he will be admitted to final oral examination on his thesis before his examining committee. At the option of this committee, a comprehensive written examination also may be required.

NOTE: Departments offering the Degree of Doctor of Philosophy are: Agricultural Biochemistry and Nutrition, Agronomy and Genetics, Biology, Chemical Engineering, Chemistry, Geology, History, Philosophy and Psychology, Physics, Plant Pathology, Bacteriology and Entomology, Medical Biochemistry, Microbiology, Pharmacology, and Physiology.

The Degree of Doctor of Education

This is a professional degree open to school leaders, administrators, teachers, and counselors who furnish evidence of significant and appropriate teaching experience. Persons expressing a desire to pursue the program leading to this degree must satisfy a College of Education faculty Committee on Prerequisites. (See page 269).

[4]In determining the candidate's proficiency in the two requisite foreign languages the major department must choose one of the following procedures:

(1) The examination may be conducted by the appropriate language department, or

(2) The examination may be conducted by a committee of three members—one member from the candidate's major field, one member from a related subject matter field, and one member from the appropriate language department.

With the approval of the Dean of the Graduate School, one other language may be substituted for French or German.

The School of Journalism

The first journalism instruction at West Virginia University consisted of a two-hour course in news writing offered in 1915 in the English department of the College of Arts and Sciences. The same department by 1920 offered more journalism courses, and by 1927 a separate Department of Journalism was established, built around a full professional curriculum.

The Board of Governors on April 22, 1939, separated the journalism unit from the College of Arts and Sciences and reorganized it as a School of Journalism, with an administrative status similar to that of other schools and colleges of the University. Since that time, the degree of Bachelor of Science in Journalism has been conferred on 195 men and 145 women. Five full-time teachers now comprise the journalism staff.

Aims

The School of Journalism's objectives are:

1. To recruit men and women capable of serving the public interest through careers in journalism.
2. To help these young people achieve proficiency in the techniques employed in reporting, editing, and administering newspapers and other publications, and in the skills of advertising and radio-television journalism.
3. To make it possible for them to acquire, through a liberal arts background as well as their professional studies, that understanding of society's problems which is essential for effective leadership in any field.
4. To acquaint them with the responsibilities which must be assumed by communications specialists, and with the opportunities which are available.
5. To provide essential training in journalism techniques for students majoring in fields other than journalism.
6. To carry on systematic research pertaining to problems in the field of communications.
7. To serve the citizens and communications media of West Virginia and the nation to the fullest extent that the abilities of students and staff members will permit.

Standards

From the beginning, instruction in journalism at West Virginia University has been in accord with the best professional school standards. Emphasis has been on quality, not numbers. Only students with a scholastic rating of approximately "B" or higher have been encouraged to take the basic courses.

Staff members have been engaged with careful attention to their individual ability to give expert instruction in particular fields. Course offerings are changed from time to time to correspond to progressive changes in the profession. Class sizes have never reached proportions where individual instruction has had to be sacrificed. The school conforms to recognized national standards, especially those required by the American Society of Journalism School Administrators.

Location and Equipment

The School of Journalism, after being housed in Woodburn Hall for more than 32 years, moved into Martin Hall in 1953, where it occupies almost the entire building.

With its basement and three stories, Martin Hall has the equivalent of 32 standard-size classrooms, 29 of which provide the School with lecture rooms, an audio-visual classroom, an auditorium seating almost 200 persons, a front business office and advertising seminar room, an advertising layout laboratory, a typographical laboratory, a newsroom, reading room, photography and engraving rooms, a radio-television laboratory, an advertising laboratory, a public-relations and industrial journalism laboratory, a room for the West Virginia Journalism Hall of Fame, and offices for the instructional and editorial staffs.

In many respects the rooms devoted to instruction in newspaper editing and publishing are equipped like the editorial and business quarters of a large weekly or small-city daily newspaper. The newsroom contains a U-copy desk, work tables

and desks, telephones, and 25 typewriters. There are teletypewriters on which United Press-International dispatches are received from 2 P.M. to 3 A.M. daily. These reports are edited by journalism majors working under the supervision of faculty members.

The adjacent reading room contains a reference library and various newspaper files. It receives daily representative newspapers and magazines of the nation. It makes available for study about 40 dailies, many weeklies, a number of the standard magazines, and a collection of high school and college papers. The school subscribes to the important special periodicals of the profession.

For instruction in typography and advertising production, a laboratory has been equipped not only for providing demonstration material but also for giving the individual student practice in the setting and adaptation of type. The advertising-layout laboratory is supplied with special tables and desks for applied instruction. The facilities of the photography laboratory include those fundamental pieces of equipment essential to basic camera-print techniques. The school's radio-television laboratory is in 300 Martin Hall. Here, too, the school's new telephone reporting laboratory is housed. In addition to such basic items as tables, typewriters, and telephones, the room has a 21-inch television receiver and a radio receiver which can receive both standard and short-wave broadcasts. Other equipment used in training students in the different aspects of broadcast journalism includes a 16-mm. motion picture camera, a 16-mm. titler, a 16-mm. motion picture projector, a balopticon, two film editors with splicing units and viewers and a transparent tape slicer, two bar-light units, two standard tape recorders, and a wire recorder. The School offers comprehensive programs of instruction in industrial publications and public relations. To introduce students to the limitations and possibilities of type, the school also houses two Linotypes and a medium-sized Heidelberg platen press.

The Journalism building also contains the office of the West Virginia Press Association, which makes available certain publications, periodicals, information, and other materials from its files and records.

Additional opportunities for observation and practice, especially in the business and mechanical aspects of newspaper work, are provided at the plant of the West Virginia Newspaper Publishing Company in Morgantown, where the *Daily Athenaeum*, the student newspaper, is printed under contract.

Practice Opportunities

Opportunities for applying the principles of sound newspaper and radio-television practice are good. The *Daily Athenaeum*, a four-day campus newspaper, is produced by journalism students in laboratories conducted from 2 to 5:30 P.M. and from 7 to 10 P.M. daily except Friday, Saturday, and Sunday. Reporters working on news runs cover the University community thoroughly. Trained deskworkers not only edit the local reporters' copy but also prepare for publication the dispatches of state, national, and world origin received on the United Press-International wire. Local pictures are taken by the newspaper's staff photographers, and other news pictures are selected from mats purchased from a national distributor.

All reporters serve as correspondents of weekly and daily newspapers. Majors pursuing the advertising-management sequence are required to spend no fewer than five hours a week during one semester soliciting advertising accounts for the campus daily, writing copy, and otherwise servicing their accounts, and making collections for the advertising sold.

Some students get additional practice by working part-time for Morgantown dailies or by taking vacation positions on newspapers of their home communities. Majors are especially urged to obtain vacation work on a good weekly or daily newspapers during the summers that precede their junior and senior years. As a rule, student journalists have staff positions on, or are regular contributors to, other campus publications.

Under a formal statewide intern training program which became effective in 1959, students with at least a 2.0 average in all subjects and a 3.0 average in journalism courses, or who have special consent, are employed by West Virginia newspapers for a 10-12 week period during the summer at a salary of $50 per week. These internships are available to students in the summers preceding their junior and senior years.

Training for students preparing for jobs in radio and television is conducted along workshop lines. In the radio courses, these students produce newscasts at local broadcasting stations under supervised laboratory conditions. In the television

courses they function as "film stringers" in covering University and Morgantown events for regional television broadcasting stations.

In their "downtown" radio labs, the students are responsible for gathering and writing the news for five news programs a week and their work is evaluated during class meetings in Martin Hall. While the main purpose of this work is to develop writing ability, meaning the ability to present information in a conversational manner, students also have an opportunity to acquire some broadcasting experience. This opportunity comes in the documentary-type news programs which they write and present on the air.

Most of the students' television work involves film production. When they have mastered the principles of motion picture photography, they apply TV techniques to these principles in "dry run" assignments. Later, they have an opportunity to shoot regional news events for television stations requesting film coverage. Film editing and splicing techniques are stressed during the lab periods.

The Placement of Graduates

During nearly four decades, almuni who completed all or most of the professional courses in journalism have found little difficulty in finding desirable positions. Although the school cannot guarantee positions to graduates, it is glad to assist them in learning of openings and in making contact with employers. To this end it maintains without charge a placement register for both current and past graduates. Students and alumni also are invited to make free use of the University Placement Service.

Professional Relations and Services

From 1920 to 1954 the publishers, editors, and other communications workers of West Virginia paid annual visits to the University campus to attend the State Journalism Conference. Among the organized groups participating were the West Virginia Publishers' Association, the West Virginia Associated Press, the West Virginia State Newspaper Council, the West Virginia Industrial Magazine Editors, the West Virginia Broadcasters' Association, the West Virginia Sports Writers' Association, and the West Virginia Intercollegiate Press Association. In 1953 the West Virginia Publishers' Association and the West Virginia State Newspaper Council were dissolved. In their place a modern West Virginia Press Association was organized. The entire faculty of the School of Journalism participates in the annual meetings of the Association, held in various cities throughout the State. The School of Journalism and the University as a whole maintain close relations with workers in the general communications fields, because the School is providing office quarters for the West Virginia Press Association and is employing the secretary-manager as a half-time lecturer. Special technical institutes are also projected by the School for the purpose of bringing communications personnel to the campus. The WVPA cooperates in such activities.

In order to perpetuate the names, achievements, and ideals of the state's distinguished editors of the past, the West Virginia Journalism Hall of Fame was instituted in 1935. Elections take place every two years under the sponsorship of the West Virginia Press Association. Suitable memorials are being placed in Martin Hall in a special room designed for the Hall of Fame and exhibits of historical significance. The names of persons thus far honored follow:

Archibald Campbell (1833-1889). *Wheeling Intelligencer.* Elected 1935.
Andrew Price (1871-1930). *Pocahontas Times.* Marlington. Elected 1935.
John Gabriel Jacob (1826-1903). *Wellsburg Herald.* Elected 1937.
Enos W. Newton (-1856). *Kanawha Republican,* Charleston. Elected 1937.
Albert Sidney Johnson (1863-1925). *Monroe Watchman,* Union. Elected 1939.
Harry Lambright Snyder (1861-1935). *Shepherdstown Register.* Elected 1939.
Jefferson Slidell Brown (1861-1935). *Randolph Enterprise,* Elkins. Elected 1941.
Robert S. Northcott (1818-1905). *National Telegraph,* Clarksburg. Elected 1941.
William E. Chilton (1858-1939). *Charleston Gazette.* Elected 1943.
Howard Holt (1883-1936). *Grafton Sentinel.* Elected 1943.
Aldine S. Poling (1867-1936). *Barbour Democrat,* Philippi. Elected 1945.
Herschel Coombs Ogden (1869-1943). *Wheeling News-Register* and other West Virginia newspapers. Elected 1945.
Gilbert Miller (1878-1939). *Post and Dominion-News,* Morgantown. Elected 1947.

Horatio Seymour Whetsell (1868-1941). *Preston County Journal,* Kingwood. Elected 1947.
William M. O. Dawson (1853-1916). *Preston County Journal,* Kingwood. Elected 1949.
Samuel Alexander McCoy (1880-1935). *Moorefield Examiner.* Elected 1949.
William B. Blake, Sr. (1851-1938). *West Virginia News,* Ronceverte. Elected 1951.
Earl Herndon Smith (1879-1940). *Fairmont Times.* Elected 1951.
Walter Eli Clark (1869-1950). *Charleston Daily Mail.* Elected 1953.
Robert H. Pritchard (1892-1950). *Weston Democrat.* Elected 1953.
Nathaniel P. Willis (1755-1831). *Potomac Guardian and Berkeley Advertiser,* Shepherdstown and Martinsburg. Elected 1955.
John J. Cornwell (1867-1953). *Hampshire Review,* Romney. Elected 1955.
John S. Gallaher (1796-1877). *Virginia Free Press,* Harpers Ferry. Elected 1957.
Hugh Ike Shott (1866-1953). *Bluefield Daily Telegraph.* Elected 1957.

From the beginning the press of the State has assumed a cordial and cooperative attitude toward professional training for journalism at the University. For many years the State Newspaper Council had among its standing committees one on Educational and Professional Standards and another on School of Journalism Building. The former group interested itself in helping the journalism unit maintain high-grade instruction and offer study inducements such as scholarships to superior young people. The latter concerned itself with ways and means of obtaining still better housing and equipment facilities for the school.

Because of intensive study of elementary journalism in high schools and increasing attention paid to school publications, together with wide use of the newspaper as a teaching aid in English, civics, history, geography, science, and other subjects, the University has long cooperated with the State's educators. The School of Journalism provides an annual critical service for high school news-periodicals and awards various degrees of excellence. It also unites with the West Virginia Association of Scholastic Journalism Directors each year in conducting a two-day State Institute of Scholastic Journalism in which the problems of teaching journalism and publishing newspapers and annuals are professionally considered.

The West Virginia Fourth Estatesman

The *West Virginia Fourth Estatesman* is a periodical published quarterly by the School of Journalism and the *Daily Athenaeum,* cooperatively, as a professional public service. Since it was founded in 1941, the *Fourth Estatesman* has disseminated journalistic news and digests of technical and special lectures delivered annually to the student body of the School. It is sent free to the communications media of the State, and to School alumni.

Journalism Organizations

Journalism organizations of which eligible students may become members are: The University Press Club, to which all proficient reporters and advanced students belong; Theta Sigma Phi, national organization of high-scholarship women in schools of journalism and of professional women in newspaper, magazine, radio, publicity, and other writing fields; Journaliers, professional fraternity; and Kappa Tau Alpha, national journalistic scholarship society, to which about ten per cent of the highest-ranking majors are elected each year. Many other University organizations are also open to journalism students with special interests outside the field of journalism.

Courses Open to Non-Journalism Majors

Major students in other colleges of the University may pursue courses in journalism for credit, provided these students can offer in each instance the necessary prerequisites.

Proficiency in English

Regular students of the University or transfers from other colleges and universities are expected to speak and write the English language with a marked degree of correctness. This means that in their English composition courses they should have achieved a standing of approximately "B" or higher. If upon entering the School of

Journalism a student is found deficient in English he will be required to take one or more additional courses in fundamental composition.

Typewriting and Shorthand

Before or soon after entering the University, a student planning to become a journalism major should learn the touch system of typing. From the beginning every reporter is expected to submit copy in neat typewritten form and to have a typing speed of no fewer than forty words a minute. If the reporter cannot demonstrate such typing ability, he may be asked to withdraw from the reporting course. He will find it advantageous to have his own machine.

The Committee on Scholarship

Messrs. Agee, Bond, and Summers.

REQUIREMENTS FOR THE DEGREE

THE BROAD EDUCATIONAL BACKGROUND

The School of Journalism emphasizes a strong liberal arts background for its students. Curricula are arranged so that students devote approximately 75 per cent of their study to broad liberal arts subjects and 25 per cent to professional courses in journalism.

This philosophy of journalism education is in accord with what appears to be the best current thought in both educational and professional circles, and it is the goal of the American Council on Education in Journalism.

It is enunciated by requiring a minimum of 30 hours, and a maximum of 33, in journalism within the first 128 hours offered for the B.S.J. degree, and by insistence on a "content" field of study as a minor. In addition to learning certain techniques and gaining journalistic knowledge and insights, students in their journalism courses are enabled to synthesize and bring into sharp focus the knowledge gained in all their university studies. The content of at least half their courses in journalism lies well within the area of general knowledge leading to sound citizenship and enriched living, regardless of their future career roles. They develop skills of communication; gain an understanding of the nature of major local, state, national, and world problems and of the role of mass media in the democratic process; learn to evaluate intelligently both news and opinion as expressed through print and electronics journalism, and in fact, become alert, informed consumers, as well as producers, of news and views upon which decisions are generally made in a democracy.

Among the foundation courses that receive special attention are these: the English language and literature; foreign language; theoretical and applied economic and business administration; national, state, and local government and the governmental systems of foreign countries; American politics and international relations; the problems of management and labor and their social implications; American and European history; philosophy, psychology, and natural science. Persons capable of producing newspapers or broadcasting news events and their interpretation with which today's readers and listeners will be satisfied must be thoroughly informed about all aspects of the modern world. They must also know the art and science of the best journalistic practice.

BACHELOR OF SCIENCE IN JOURNALISM

A candidate who has satisfied all general requirements of the University and who as a regularly enrolled student of the School of Journalism has earned 64 semester hours of credit of a value specified later in the Scholarship section and in the subjects listed in one of the professional curricula hereinafter outlined will be recommended for the degree of Bachelor of Science in Journalism, provided the combined number of his credits acquired as a pre-journalism student and as a regularly enrolled journalism major totals no fewer than 128. As a minimum professional requirement, 22-25 of the 64 semester credits earned after the student has enrolled in the school must be obtained in journalism subjects. Moreover, no fewer than 60 of the 64 hours mentioned above shall be obtained in courses numbered between 100 and 300. Further, no student will be permitted to offer fewer than 30 nor more than 33 hours of journalism courses among the 128 hours necessary for the degree.

Foreign Languages

To be eligible for graduation, a student must have completed 12 semester hours in one language in college; or he must have offered 2 units in a foreign language for entrance and must have completed 6 hours in the same language in college, above courses numbered "1" and "2."

Natural Sciences

A candidate for the degree must have acquired 8 hours in one of the following natural sciences: biology, botany, chemistry, geology, physics, and zoology.

Maximum and Minimum Work

During each semester a regular student may register for no fewer than fourteen and no more than eighteen hours. To obtain permission to carry eighteen hours, a student must have maintained an average in all subjects of "B" or higher during the preceding semester. Variations from the foregoing rule will be allowed only on recommendation of the School's Committee on Scholarship.

Exemptions from Requirements

Exemption from any professional course because of practical newspaper experience that a student may have had will be granted only after the student has submitted satisfactory evidence as to the nature and quality of the experience. For such exemptions approved advanced courses shall be substituted. Credit toward a degree can be granted for practical work only when it has been done under the supervision of an accredited instructor.

PROFESSIONAL ADVISERS

A staff member serves as adviser in each curriculum with the Dean acting as general adviser for all journalism students. Not only juniors and seniors, but pre-journalism freshmen and sophomores as well, should consult him about all scholastic and curricular problems that may arise.

THE MINOR FIELD

To meet the requirements for a minor, a student must earn at least 15 semester hours in some subject other than journalism, 12 of which must be in courses numbered 100-199 or 200-299. Minor fields especially recommended for journalism students are economics, history, English, political science, and sociology. In addition, commerce is recommended for Advertising-Management, Public Relations, and Technical Journalism majors; and agriculture, the natural sciences, the medical sciences, and engineering are recommended for Technical Journalism majors.

Graduates of the School of Journalism are expected to be not only citizens of good manners, of honorable and upright character, and of respect for other people and their ideas, but alert individuals of better-than-average intellectual attainments. It is urged, therefore, that all candidates for a degree aspire to earn at least three times as many grade points as they have credit hours. To be eligible for graduation, a student must earn as a minimum during the junior and senior years an average of 2½ grade points for every semester hour of required courses.

PRACTICAL EXPERIENCE

In addition to the general experience each journalism major will obtain on the *Daily Athenaeum* in connection with required or elective courses, no major will be approved for graduation unless during either his junior or senior year he has served for not less than one semester in some editorial or executive capacity on the *Daily Athenaeum,* or unless he has offered in place of this service a substitute project approved by his adviser.

GRADUATE STUDY

Although at the present time the School of Journalism is devoting its instructional facilities chiefly to professional curricula that lead to the degree of Bachelor of Science in Journalism, it frequently provides a graduate minor for students taking the master's degree in a field of specialization related to journalism. Graduate students may also elect Journalism courses. See the *Announcements of the Graduate School.*

PRE-JOURNALISM CURRICULUM

The School of Journalism has designated the principal courses in which a pre-journalism freshman and sophomore should enroll in order to help him fulfill the desired program leading to the degree of Bachelor of Science in Journalism. These courses not only provide a sound basis on which a liberal education can be built, but also offer the student an introduction to several fields from which he later will select his minor.

FIRST YEAR

	Hr.
English 1 and 2—Composition and Rhetoric	6
History 1 and 2 or Humanities 1 and 2	6-8
Natural Science	8
Foreign Language	6
Journalism 1—Survey of Journalism	1
Journalism 2—Journalism Style and Grammar	1
Physical Education	2
Military or Air Science 1 and 2	4
Electives as needed	

SECOND YEAR

	Hr.
Journalism 18—News Writing	3
Journalism 19—Copy Editing and Makeup	3
History 52—Growth of Amer. Nation to 1865	3
History 53—Making of Mod. Amer., 1865 to Present	3
Foreign Language (if needed)	6
English 6—American Literature	3
English 4 or 164—English Literature	3
Economics 1 and 2—Principles of Economics	6
Military or Air Science 3 and 4	4
Physical Education (Women)	2
Electives as needed	

CURRICULA

The School of Journalism offers five curricula designed to equip students for specialized branches of journalism practice or for occupations or professions for which journalistic training is desirable or necessary preparation. Each sequence leads to the degree of Bachelor of Science in Journalism.

ADVERTISING-MANAGEMENT CURRICULUM

This is a sequence designed to prepare students for careers in creative advertising, selling, and media management.

THIRD YEAR

	Hr.
*Accounting 1 and 2— Principles of Accounting	6
**Psychology 1—Introduction to Psychology, or Philosophy 104—Introduction to Philosophy	3
Pol. Sci. 2—American Federal System	3
Marketing 111—Principles of Marketing	3
Marketing 115—Principles of Retailing	3
Journalism 110—Typography and Printing Processes	2
Journalism 113—Principles of Advertising	3
Journalism 115—Advertising Copy and Layout	2
Electives as needed	

FOURTH YEAR

	Hr.
Journalism 101 or 201—Interpreting Current Events	1
Journalism 108—The Community Newspaper	2
Journalism 109—Applied Newspaper Management	3
Journalism 114—Newspaper Advertisement Selling	2
Journalism 239—Seminar in Advertising Problems	3
Electives as needed	

Advertising-Management majors will elect from 5 to 8 additional hours in journalism from the following courses: Journ. 116, 119, 120, 122, 124, 170, 212, 220, 227, and 230.

*Accounting 1 and 2 is required for Management majors, may be elected by Advertising majors.

**Psychology 1 is required of Advertising majors. Management majors may elect either Psychology 1 or Philosophy 104.

NEWS-EDITORIAL CURRICULUM

This is a sequence intended primarily for those who wish to prepare themselves for writing or executive positions in print media.

THIRD YEAR

	Hr.
Psychology 1—Introduction to Psychology, or Philosophy 104—Introduction to Philosophy	3
Pol. Sci. 2—American Federal System	3
Pol. Sci. 120—State and Local Government	3
Journalism 101 or 201—Interpreting Current Events	1
Journalism 118—Reporting	3
Journalism 119—Advanced Editing and Makeup	3
Journalism 120—News Photography	2
Electives as needed	

FOURTH YEAR

	Hr.
Journalism 227—History of Journalism	3
Journalism 230 and 235—Editorial and Law of the Press	6
Electives as needed	

News-Editorial majors will elect from 4 to 7 additional hours in journalism from the following courses: Journ. 108, 110, 113, 122, 170, 212, and 220.

PUBLIC RELATIONS CURRICULUM

This sequence is designed for students who wish to prepare for work in a public relations firm or public relations department, or for the position of information specialist in business, industry, organized labor, government, education, welfare agencies, or the armed services.

THIRD YEAR

	Hr.
Journalism 110—Typography and Printing Processes	2
Journalism 113—Principles of Advertising	3
Journalism 118—Reporting	3
Pol. Sci. 120—State and Local Government	3
Psychology 1—Introduction to Psychology	3
Psychology 216—Attitudes and Propaganda	3
Speech 11—Public Speaking	3
Electives as needed	

FOURTH YEAR

	Hr.
Economics 115—Labor Problems	3
Journalism 101 or 201—Interpreting Current Events	1
Journalism 212—Public Relations	3
Journalism 213—Industrial Journalism	2
Journalism 230—Editorial and Law of the Press	3
Management 216—Personnel Management	3
Electives as needed	

Public Relations majors will elect from 5 to 8 additional hours in journalism from the following courses: Journ. 119, 120, 124, 125, 220, and 235.

RADIO-TELEVISION CURRICULUM

This sequence is designed for students who want to work in the news and information areas in the broadcasting field. Course offerings are geared to the needs of those desiring to prepare for such positions as radio-TV news reporter and editor, film reporter and editor, sports editor, and continuity writer.

THIRD YEAR

	Hr.
Journalism 118—Reporting	3
Journalism 120—News Photography	2
Journalism 122 and 123—Radio and Television Reporting	4
Psychology 1—Introduction to Psychology, or Philosophy 104—Introduction to Philosophy	3
Pol. Sci. 2—American Federal System	3
Electives as needed	

FOURTH YEAR

	Hr.
Journalism 101 or 201—Interpreting Current Events	1
Journalism 116—Radio-Television Advertising	2
Journalism 124—Television News Photography	2
Journalism 125—Television Film Reporting and Editing	2
Pol. Sci. 120—State and Local Government	3
Electives as needed	

Radio-Television majors will elect 6 to 9 additional hours in journalism from the following courses: Journ. 113, 119, 227, 230, and 235.

TECHNICAL JOURNALISM CURRICULUM

This is a sequence designed to enable a student to obtain the necessary proficiency in journalism and at the same time acquire extensive knowledge in some secondary technical area, such as agriculture, home economics, the medical sciences, the natural sciences, or commerce.

THIRD YEAR

	Hr.
Psychology 1—Intrdouction to Psychology, or Sociology 1—Introduction to Sociology	3
Pol. Sci. 2—American Federal System	3
Journalism 101 or 201—Interpreting Current Events	1
Journalism 118—Reporting	3
Journalism 119—Advanced Editing and Makeup	3
Journalism 220—Newspaper and Mag. Article Writing	2
Electives as needed	

FOURTH YEAR

	Hr.
Journalism 110—Typography and Printing Processes	2
Journalism 213—Industrial Journalism	2
Electives as needed	

Technical Journalism majors will elect from 9 to 12 additional hours in journalism from the following courses: Journ. 120, 212, 227, 230, and 235.

COURSES OF INSTRUCTION

The following system of course numbering is employed: Courses 1-99, intended primarily for freshmen and sophomores; courses 100-199, intended primarily for juniors and seniors; 200-299, advanced courses open to juniors, seniors, and graduate students.

1. Survey of Journalism. I. 1 hr. Required of all journalism majors. Intended to acquaint freshmen with career opportunities in and principles of communications. Mr. Bond

2. Journalism Style and Grammar. II. 1 hr. PR: English 1 with a grade of "C" or higher. Required of all journalism majors. A study of the *Daily Athenaeum* style sheet and essentials of effective news writing. Mr. Bond

18. News Writing. I. 3 hr. PR: English 1 and 2, with an average of 2.5 or higher for the two courses, or consent. Required of all journalism majors. Two lec. and a 2-hr. lab.-demonstration period. Designed to provide practice in news writing and to survey the news-reporting field for other journalism specialists. Mr. Bond

19. Copy Editing and Makeup. II. 3 hr. PR: Journ. 18. Required of all journalism majors. Two lec. and a 2-hr. lab.-demonstration period. The editing of news copy, headline writing, and introduction to page makeup. Mr. Atkins

101. Interpreting Current Events. I, II. 1 hr. PR: Sophomore standing. Required of all journalism majors. A study of national and world news developments, their backgrounds and their meanings. Mr. Atkins

108. The Community Newspaper. I. 2 hr. PR: Journ. 18. Required in Advertising-Management curriculum. Fundamental problems and techniques in the operation and management of small newspapers. One lec. and two lab. hours. Mr. Fisher

109. Applied Newspaper Management. II. 3 hr. PR: Journ. 108 or consent. Required in Advertising-Management curriculum. Organization, operation, and management of daily newspapers. Two lec. and two lab. hours. Mr. Fisher

110. Typography and Printing Processes. I, II, S. 2 hr. Required in Advertising-Management, Public Relations, and Technical Journalism curricula. Historical development of type, printing processes, and paper. Practice in handsetting type, preparing forms, and operating platen and offset presses. Identification of type and its application to advertising, newspaper, and magazine production. Mr. Summers

113. Principles of Advertising. I, II, S. 3 hr. Required in Advertising-Management and Public Relations curricula. Two lec. and a 2-hr. lab. period. Survey of the function of advertising in the American economic system for national and retail advertisers. Study of individual advertising and media, copy and layout problems, appeals, research, production, schedules, federal and state laws affecting advertising, and ethics. Practical lab work in writing and layout of advertisements. Mr. Summers

114. Newspaper Advertisement Selling. I, II. 2 hr. PR: Journalism 113. Required in Advertising-Management curriculum. One conference and five lab. hours arranged. Selling of space, preparation of retail copy, and servicing local newspaper accounts for the *Daily Athenaeum*. Students handle specific assignments, develop new accounts, and apply the mechanics and psychology of space-selling. Enrollment restricted. Mr. Summers

115. Advertising Copy and Layout. II. 2 hr. PR: Journ. 113 or Marketing 120. Required in Advertising-Management curriculum. Two lec. and a 2-hr. lab. arranged. Applying tested advertising methods to the preparation of merchandising copy; layout design; production of publication advertising. Emphasis on sales appeals, attention factors, layout planning, illustrations, copy writing, copy testing, and production methods and problems for retail and national advertisers. Mr. Summers

116. Radio and Television Advertising. I. 2 hr. PR: Journ. 113 or consent. Required in Radio-Television curriculum. Historical development of radio and TV as advertising media, including rates, listener surveys, sponsorship problems, and promotion. Writing of radio and television commercials, programs, and preparation of sales and sales promotion plans for stations, national and retail advertisers. Federal regulations affecting broadcast media. Mr. Summers

118. Reporting. I, II. 3 hr. PR: A grade of "C" or higher in Journ. 18. Required of majors in all sequences except Advertising-Management. Nine lab. hours on the *Daily Athenaeum* and one critique hour. Mr. Atkins, Mr. Bond and Mr. Young

119. Advanced Editing and Makeup. I, II. 3 hr. PR: A grade of "C" or higher in Journ. 19. Required of majors in News-Editorial and Technical Journalism curricula. Nine lab. hours on the *Daily Athenaeum* and one critique hour. Mr. Atkins

120. News Photography. I, II. 2 hr. PR: Journ. 18 or consent. Required in News-Editorial and Radio-Television curricula. One. lec. hour, one demonstration hour, and one 2-hr. lab. An introduction to basic photographic principles. Students use several types of cameras, and learn to develop, print and enlarge their own examples of portraiture, copywork, action, and general photography. Mr. Bond

122. Radio and Television Reporting. I. 2 hr. PR: Journ. 18 and consent. Required in Radio-Television curriculum. A lab. course providing training in skills required in the writing and broadcasting of news; practice (including use of tape

recorder) in reporting and editing news for programs with various formats. One lec. and 3 lab. hours. Mr. Young

123. Radio and Television Reporting. II. 2 hr. PR: Journ. 122 or comparable experience, and consent. Required in Radio-Television curriculum. A continuation of Journ. 122. Practice in getting, writing, and editing local and regional news for broadcast. One lec. and 3 lab hours. Mr. Young

124. Television News Photography. I. 2 hr. PR: Journ. 18 and 120 and consent. Required in Radio-Television curriculum. Theory and practice in basic motion picture techniques, with emphasis on the special requirements of television news programs. One lecture and 3 lab hours. Mr. Young

125. Television Film Reporting and Editing. II. 2 hr. PR: Journ. 124. Required in Radio-Television curriculum. Production of film clips for news programs on regional television stations; practice in editing and integration of visual materials for TV newscasts. One lec. and 3 lab. hours. Mr. Young

170. Mechanical Composition. I, II. 1 hr. PR: Journ. 110 or consent. The fundamentals of operation, care, and maintenance of the Linotype. The use of mechanically produced type in newspapers and other publications. Special problems in mechanical composition. One lec. and one lab. hour. Mr. James

201. Interpreting Current Events. S. 1 hr. For juniors, seniors, and graduates. Journalism majors may substitute for the Journalism 101 requirement. A study of national and world news developments, their backgrounds and their meanings. Staff

212. Public Relations. I, II. 3 hr. Required in Public Relations curriculum. Principles, problems, and practices concerned in the relationships of businesses, industries, and non-profit organizations with their respective publics; practice in the evaluation of existing PR programs and their refinement for further effectiveness. Mr. Young

213. Industrial Journalism. II. 2 hr. PR: Journ. 212 or consent. Required in Public Relations and Technical Journalism curricula. A study of the relations between industry and its many publics, with emphasis on internal and external company publications as public relations media. Extensive practice in planning and writing material and in page makeup for industrial publications and trade journals. Mr. Young

215. High School Journalism. II, S. 2 hr. A survey of scholastic publications problems and techniques; suggested methods of instruction. Mr. Bond

220. Newspaper and Magazine Article Writing. II. 2 hr. Required in Technical Journalism curriculum. A seminar-type course devoted to the writing, editing and marketing of features, including reviews and critical articles. Mr. Bond

227. History of Journalism. I, S. 3 hr. PR: History 52 and 53. Required in News-Editorial curriculum. A study of the impact of the American press on the nation; the development of today's communications media from their beginnings in 17th Century England and in the American colonies; an examination of the great names in journalism from the standpoint of their contributions to today's journalism; freedom of the press and its current implications. Mr. Bond

230. Editorial and Law of the Press. I. 3 hr. Required in News-Editorial and Public Relations curricula. Writing and analyzing editorials and columns; a study of the editorial page and editorial ethics, problems, and policies; a study of the vital elements of libel, privacy, contempt, and other phases of law of the press. Mr. Agee

235. Editorial and Law of the Press. II. 3 hr. Required in the News-Editorial curriculum. A continuation of Journ. 230. Mr. Agee

239. Seminar in Advertising-Management Problems. II. 2 hr. PR: Senior standing and major or minor in advertising. Required in Advertising-Management curriculum. Current trends in advertising, merchandising, and distribution prob-

lems. Students develop individual projects in some phase of advertising or management. Mr. Summers and Mr. Fisher

241. Journalism Problems. I, II, S. 1-3 hr. For seniors and graduates. An intensive study, independently conducted, of a specialized area or problem in journalism, to be approved by the Dean. Staff

242. Advanced Journalism Problems. I, II, S. 1-3 hr. A continuation of Journ. 241. Staff

The College of Law

The College of Law, established in 1878, is the oldest professional school in the University.

In 1897 the course of study was increased from one year to two years. Since 1912 the degree of Bachelor of Laws has been conferred only upon satisfactory completion of three years of law-school work. From 1913 to 1924 the requirement for admission was one year of college work; from 1924 to 1931 the requirement was two years. Since 1931 the minimum pre-law requirement for the degree has been three years of work of collegiate grade in an institution of approved standing.

In 1914 the College of Law was admitted to membership in the Association of American Law Schools, an organization of leading schools established for the purpose of maintaining high standards in legal education. The College of Law also is on the list of schools approved by the American Bar Association.

The Law Building

The College of Law occupies a fireproof building, erected for its use in 1923. The building is three stories high. It contains two classrooms and a practice-court room, as well as private offices for each member of the staff. The library has a reading room accommodating the entire student body. In addition, the building has a locker room and club rooms for the students.

The Law Library

The Law Library contains more than 61,000 volumes. It includes reports of the highest courts of all states, insular possessions, and the District of Columbia, with the exception of a few volumes no longer obtainable, together with published reports of the lower courts of various states; the National Reporter System, and reports of the Federal courts and commissions; selections of annotated cases; the American and the English encyclopedias of law; the American Digest. It also contains reports of the English courts, as contained in the English Reprint and the Law Reports, as well as the Irish reports, the Scotch reports, and the more important Canadian and Australian reports; the English statutes and the statutes of the various states, as well as Federal statutory material, including more modern codes and compilations; a complete collections of codes and session laws of the Virginias from the time of early settlers; treatises and textbooks, representative fairly of the legal literature dealing with common law and with civil law, including a large amount of old English historical material.

In addition to these, there are legal periodicals and an extensive collection of bar association reports and legal miscellany; briefs and records of cases decided by the Supreme Court of Appeals of West Virginia, now totaling more than 1,200 volumes, together with briefs and records of the more recent cases in the Circuit Court of Appeals of the United States for the Fourth Circuit.

Admission to the Bar

Under the provision of the West Virginia Code those who receive the degree of Bachelor of Laws from West Virginia University may be admitted to the bar without further examination.

All persons seeking admission to the West Virginia bar, except those who hold the degree of Bachelor of Laws from West Virginia University, are required to pass the state bar examination.

Information as to the bar examinations and as to other matters relating to admission to the bar may be obtained upon inquiry directed to the Secretary, State Board of Law Examiners, Charleston, West Virginia.

The West Virginia Law Review

The *West Virginia Law Review* is published by the College of Law and is the official publication of the West Virginia Bar Association.

The editors of the Student Note and Recent Case Department of the *Law Review* are members of the second- and third-year classes, chosen each year from those students

who made the highest grades in the preceding year. This department affords to students an opportunity to do research work of a practical nature.

The Edward G. Donley Memorial Lectures

In 1954 a fund was established to provide a series of lectures to be delivered annually in memory of Edward G. Donley, a distinguished graduate of the College of Law in the Class of 1899. The donors of the fund were his widow, Mrs. Eleanor T. Donley, and his son, Mr. Robert T. Donley. These lectures, given by an outstanding judge, lawyer, or law school teacher, deal with problems of law and jurisprudence not otherwise adequately covered in the Law School curriculum.

REQUIREMENTS FOR DEGREES

BACHELOR OF LAWS

The degree of Bachelor of Laws is conferred upon those who have met the requirements for entrance to the College of Law as candidates for this degree and who have satisfactorily passed examinations in courses aggregating eighty-one credit hours, distributed over three years' residence. They must also have obtained an average grade of "C" as hereinafter provided. Except with the permission of the Scholarship Committee these eighty-one hours must be taken in no more than six semesters or the equivalent thereof in summer school, and the last twenty-seven hours of work must be taken in the College of Law of West Virginia University. When a student, because of admission with advanced standing from another law school, needs less than eighty-one hours in order to satisfy the requirements for this degree, the "C" average required for graduation is computed on the basis of work taken in the College of Law. No student may receive the degree of Bachelor of Laws without at least three semesters in residence at the College of Law and the successful completion of courses aggregating at least one-half of the total number of hours required for graduation. Candidates for the degree of Bachelor of Laws are required to pass the proficiency examination in English given by the English Proficiency Board of the University.

PROGRAM OF INSTRUCTION

It is the primary aim of the College of Law to give the student an adequate preparation for the practice of law. This involves not merely imparting a knowledge of the legal rules and other materials which courts and administrative tribunals employ, but also, what is equally important, a training in the techniques of legal thinking and, so far as it is feasible to do so, in the practical skills of the profession. Some courses are especially designed to acquaint the student with the realities of practice, including the drafting of legal instruments and personal participation in the trial of cases in Practice Court. To the extent that it is practicable to do so, cases are tried in Practice Court exactly as they would be tried in an ordinary court. General information as to the nature of the training to be acquired in Practice Court and in the prerequisite course on Practice and Procedure is set forth *infra* under *Description of Courses*.

In most courses the work of the student is based chiefly upon the study and discussion of decided cases and statutes, with collateral reading of textbooks and periodicals, elucidated by free discussion in class. In all courses special emphasis is given to those West Virginia cases, statutes and procedures that differ from the general law. Thus, although it is an aim of this College to give to West Virginia students a training which is not available at any other law school, it is at the same time a fundamental objective of this College to give every student such a general and practical legal training that he will be adequately qualified to practice law in any other state.

The over-all objective of the College of Law connotes, among other things, an attempt to train the student to discover and solve the ever-varying problems which constantly confront lawyers, courts and administrative tribunals; and this, in essence, envisions cultivating in the student a capacity to think intensely and inquiringly, an ability to make searching analyses of complex fact situations which will disclose the legal questions involved therein, an imaginative resourcefulness in ascertaining possible solutions, a will and patience to investigate their validity and practicability, and a determination not only to take nothing for granted but to act conscientiously and courageously on his own considered judgment. This also involves an effort to inculcate

in the student an appreciation of the lawyer's responsibility to his client and to society, and an understanding of the grave dangers inherent in any infringement of the ethical standards of the profession.

The following program of instruction is designed with these ends in view. The following courses are required: All first year courses, Common Law Pleading, Equity II, Evidence, Federal Income Taxation, Legal Ethics, Practice and Procedure, and Practice Court. All other courses are elective. Under very exceptional circumstances, the Scholarship Committee may exempt a student from taking a required course, or may permit a student to take a first, second, or third year course in some other year. Neither fewer than 13 nor more than 16 hours may be carried without the consent of the Scholarship Committee.

DESCRIPTION OF COURSES

The following abbreviations are used in the description and schedule of courses:

A—an alternate course—not given every year.
I—a course given in the first semester.
II—a course given in the second semester.
I and II—a course given throughout the year.
PR—prerequisite.
R—required.

FIRST YEAR

100. Accounting for Lawyers. II. 2 hr. R. This course is designed for students with no previous training in accounting. It has as its objective the preparation of a young lawyer for collaboration with accountants on problems that require the work of both professions for a solution. The principles of elementary bookkeeping are considered only insofar as it is necessary to enable the student to grasp the more fundamental questions of accounting policy. The major portion of the course concerns the application of sound accounting principles to the problems of periodic determination of revenue, matching costs and revenues, inventory methods, valuation of tangible and intangible assets, depreciation and amortization, surplus and reserves, analysis of financial statements, and consolidated financial statements. Practical problems are regularly assigned for outside work. Wilber G. Katz, *Introduction to Accounting.*

102. Common Law Remedies. I. 2 hr. R. Introduction to the judicial process and organization of courts; the development and present effect of common law actions, including trespass, trespass on the case, detinue, replevin, ejectment, account, covenant, debt and assumpsit. The course also deals with the relief available in unlawful entry and detainer, as well as in the extraordinary remedies of mandamus, prohibition, quo warranto, information in nature of quo warranto, certiorari, habeas corpus, and by injunction. When time permits, a general discussion of the application of statutes of limitations is included. Cook, *Readings on forms of Action at Common Law.*

104. Contracts. I. 6 hr. R. The general principles of substantive law relating to contracts, formal and informal. The creation of simple contracts by offer and acceptance, consideration, Statute of Frauds, joint obligations, third-party beneficiary contracts, assignment of contractural rights and delegation of duties; conditions, performance and breach, excuses for nonperformance, impossibility of performance, discharge of contractural duties, and illegal contracts. Williston, *Cases on Contracts,* 6th ed., A.L.I. Restatement of Contracts.

106. Criminal Law and Procedure. I. 4 hr. R. A systematic survey of the penal law, the principles and maxims of the general part, the rules of the special part, with the elements of specific crimes against person and property. Criminal law enforcement and criminal procedure at common law, with emphasis on West Virginia practice, including pleading in criminal cases. Harno, *Cases and Materials on Criminal Law and Procedures,* 4th ed.

108. Equity I. II. 2 hr. R. This course covers the nature and principles of equity jurisdiction; operation and enforcement of equitable decrees; specific relief against torts, including relief against waste, trespass, nuisances, interference

with business rights, defamation, and injuries to personality; bases and forms of relief against torts; effect of criminal law on equitable relief; defenses to specific relief; consideration of the special equitable remedies. Special attention is given to bills of interpleader and bills in the nature of bills interpleader, both in state and federal courts. As to other special equitable remedies, see Equity II. Chafee and Re, *Cases on Equity*, 4th ed.

110. Legal Research and Writing. II. 2 hr. R. The nature and use of law books, with training in research and exposition. Lecture, audio-visual instruction, and extension work assignments, leading the student through all steps of preparation of one actual controversy: research by all methods, evaluation of legal authorities, exposition (with emphasis on the effective use of the written word) in an office memorandum, and argumentation (with emphasis on legal reasoning) in an appellate brief. Pollack. *Fundamentals of Legal Research;* Cooper, *Effective Legal Writing.*

112-113. Property I. I and II. 6 hr. R. (a) The law of personal property to the extent that it is not covered in other courses. (b) The historical background of real property. Obtaining title to land through adverse possession. The modern land transaction which includes the statute of frauds, contract for the sale of land, marketable title, status of vendor and vendee and problems in equitable conversion, the mortgage and trust deed, the deed, delivery in escrow, description of land, covenants for title, recording acts, bona fide purchasers for value, and examination of title. Controlling the use of land through legislation and restrictive covenants. (c) The law of landlord and tenant which includes the creation of the landlord and tenant relations, creation and effect of express and implied covenants in leases, transfers of leasehold and reversionary estates, breach of covenants and conditions, and termination of the landlord and tenant relation. Casner and Leach, *Cases and Text on Property.*

114. Torts. II. 5 hr. R. Liability for intentional and unintentional acts. Includes assault and battery; false imprisonment, privileged acts, negligence; causation; strict liability; deceit; defamation, and invasion of rights of privacy. Seavey, Keeton, and Keeton, *Law of Torts,* 1957 ed.

SECOND YEAR

200. Common Law Pleading. II. 4 hr. R. A comprehensive review of the system developed by the common law and by statute for the purpose of forming issues of law and issues of fact for trials in common law actions. The demurrer, producing an issue of law, receives first consideration because it is the mechanism by which the sufficiency of all the other pleadings, leading to issues of fact, is determined. The declaration, which states the plaintiff's cause of action and is the initial pleading in the case, receives extensive consideration because the cases dealing with it are intended not only to define the formal and substantial requisites of allegations stating causes of action in the whole contract and tort fields, but also to illustrate the general rule of pleading. A study of the plea, in which the defendant asserts matters of fact as a defense to the cause of action alleged in the declaration, begins with consideration of general principles relating to pleas and continues with an examination of the specific requisites of the various kinds of pleas; the three classes of traverses; pleas in confession and avoidance; pleas in estoppel; pleas of setoff and recoupment; and pleas in abatement. The replication and subsequent pleadings require little attention, but the new assignment, which comes at the replication stage, and the departure, which may come at or after the replication stage, receive particular consideration. Thereafter, amendment, aider by verdict, and repleader are dealt with as separate topics. Parties to actions and the consequences of nonjoinder and misjoinder of parties receive attention in the concluding topic. Particular emphasis is given to West Virginia statutes, court rules and decisions. Sunderland, *Cases on Common Law Pleading,* 2d ed.

202. Constitutional Law. I. 4 hr. The course aims to impart an understanding of the role of the Federal Constitution in relation to individual liberties and to the federal system and of the judicial process in operation as exemplified in constitutional decisions. The focus is on the commerce and the due process clauses almost exclusively. The materials assigned for study consist of the full text of

the original reports of selected cases. Freund, Sutherland, Howe, and Brown, *Constitutional Law: Cases and Other Problems*, 2 vols. and current supplement.

204. Equity II. I. 3 hr. R. This course deals largely with the specific performance of contracts, including consideration of the types of contracts as to which equity courts will grant relief, the extent to which the court will grant relief, the effect of such contracts on third persons (herein of equitable servitudes or restrictions on use of land), the consequences of the right to specific performance (herein of the effect of death of one or both of the parties to the contract or destruction of or damage to the property involved), relief where performance possible does not comply with the contract, relief where the contract does not comply with the Statute of Frauds, and various defenses to relief in equity, such as inadequacy of consideration, laches, misrepresentation, concealment, nondisclosure, mistake, hardship, and lack of mutuality. When time permits, consideration is given to certain special equitable remedies such as bills of peace, cancellation of contracts, removal of cloud upon title, and declaratory judgments. As to interpleader, see Equity I. Chafee and Re, *Cases on Equity*, 4th ed.

206. Federal Courts. II. 3 hr. Jurisdiction and procedure in federal courts. Federal question and diversity jurisdiction; removal jurisdiction and procedure; the law applied in federal courts; venue, process, joinder of parties and actions, and trial of actions in federal courts. McCormick and Chadbourn, *Cases on Federal Courts*, 2d ed.

208-209. Income Taxation. I and II. 4 hr. R. The course is designed to give the student a thorough understanding of the basic application of the federal income tax system and of the administrative and judicial procedures available for the resolution of tax controversies. Gross income items; deductions; tax accounting; gains and losses from the disposition of property; taxation of the family, including trusts and marital arrangements; partnerships; corporations and security holders; corporate reorganizations and readjustments. Familiarization with the tax forms is provided by practical problems regularly assigned. Surrey and Warren, *Federal Income Taxation, Cases and Materials* (1955 ed.), *Federal Taxation—Current Law and Practice* (Surrey and Warren: Commerce Clearing House).

210. Moot Court. II. 2 hr. Study and training in appellate practice. Individual research and group discussion on problems in presentation of cases before appellate courts. Preparation of appellate briefs based on the records of actual cases and presentation of oral arguments before judges selected from the West Virginia Bar.

212-213. Property II. I and II. 5 hr. (a) Descent and distribution of property under intestacy laws. Law of advancements. Laws protecting widows and children from disinheritance. (b) The law of wills. (c) Administration of decedents' estates. (d) Time will be devoted to the type and problems of future interests arising in the construction of deeds and wills, especially gifts to classes, powers of appointment and the rule against perpetuities. Leach, *Cases and Text of the Law of Wills*, 2d ed. (1955 revision); Simes, *Cases on Future Interests*, 2d ed.

214. Trusts. II. 4 hr. The nature of a trust, its creation and elements; the transfer of a beneficiary's interest; the administration of trusts; the termination and modification of the trust; charitable trusts; liabilities to and liabilities of third persons; resulting and constructive trusts. Scott, *Cases on Trusts*, 4th ed.

THIRD YEAR

300. Conflict of Laws. II. 4 hr. The legal problems arising when an occurrence cuts across state or national boundaries, emphasizing questions of characterization, jurisdiction, foreign judgments, recognition and application of foreign law, in selected fields of law, including contracts, torts, property, domestic relations, administration of estates and corporations. Cheatham, Goodrich, Griswold, Reese, *Cases and Materials on Conflict of Laws*.

302. Corporations. I. 4 hr. The law of business corporations including formation of such corporations; corporate powers and their distribution between share-

holders, directors, officers and agents, and the manner of exercising such powers; creation and maintenance of corporate capital; the issuance and marketing of securities, and the rights of shareholders with respect to dividends. Ballantine, Lattin, and Jennings, *Cases and Materials on Corporations*, 2d ed.

304. Equity Pleading and Practice. I. 2 hr. PR: Common Law Pleading. An exposition of the fundamental pleading devices developed by courts of equity for purposes of defining and deciding issues in an equity suit; including, on the plaintiff's side, the function of a bill of complaint and a replication, and on the defendant's side, the functions of a demurrer, plea, answer, disclaimer and cross bill. Preliminary consideration is given to principles determining the proper parties to a suit in equity and the effects of nonjoinder and misjoinder of parties. Procedural topics include amendments; motions; petitions; testimony and hearing; masters in chancery; classification, correction, reversal and enforcement of decrees; equitable defenses in actions at law; appellate procedure. In all instances emphasis is placed on West Virginia statutes and decisions. Clephane, *Equity Pleading and Practice,* selected cases, statutes and lectures.

306. Estate and Gift Taxation. I. 2 hr. The course concerns the application of the federal transfer taxes (the gift tax and the estate tax) and the West Virginia inheritance tax. Basic application; inter vivos transfers subject to both transfer taxes; joint interests; life insurance; valuation; exemptions, exclusions and deductions; marital deduction and split gifts. Statutory materials on the West Virginia inheritance tax are explained. Warren and Surrey, *Federal Estate and Gift Taxation, Cases and Materials* (1956 ed.). *Federal Taxation—Current Law and Practice* (Surrey and Warren: Commerce Clearing House.)

308. Evidence. I. 4 hr. R. This course deals with the law of evidence in trials at common law and in equity, with collateral reference to proceedings before commissions. The principal topics covered are judicial notice; burden of proof and presumptions; problems of relevancy, remoteness, undue prejudice, and the like; leading rules and principles of exclusion and selection; functions of judge and jury; a study of the materials and procedures dealing with form of testimony; perception and memory in connection with presentation of testimonial evidence; direct examination and matters incident thereto; cross-examination and matters incident thereto; redirect examination; discretion of the trial judge; competency and privilege. A considerable part of the classroom work deals with the handling of problems after the manner in which the problems would be handled in a trial court. Where the local law differs from the commonly accepted view, special attention is given to the West Virginia law. Morgan and Maguire, *Cases on Evidence,* 4th ed., supplemented by required readings.

310. Legal Ethics. I. 1 hr. R. The primary effort in this course is to bring to the attention of students the more prominent situations in which an attorney may be tempted to depart from standards of professional conduct, and how such a departure is regarded by the Bench and the Bar. Attention is given to the following topics: supervision and discipline of lawyers; unauthorized practice of law; advertising; fees and charges; client's confidential communications; representing conflicting interests; adverse interests of attorney and client; negligence, incompetence and mismanagement; clients' money; serving what clients by what means; relations of lawyers with judges, juries, witnesses and other lawyers; aiding unauthorized practice of law; the lawyer in private life. Students are required to real in full the *Canons of Judical and Professional Ethics.* Trumbull, *Materials on the Lawyers' Professional Responsibility* (1957).

312. Practice and Procedure. I. 4 hr. R. PR: Common Law Pleading. This course is confined almost entirely to a consideration of West Virginia statutes and decisions. It deals primarily, in chronological order, with the fundamental procedural phases of a common law action: issuing, requisites and service of process; appearances; default procedure; continuances; the right to a jury trial and the processes by which a jury is selected; trial by the court when a jury is waived; right to open and close; objections and exceptions, order of proof; nonsuits; discontinuances and retraxit, demurrers to the evidence; motions to direct verdict; instructions to juries; arguments of counsel; deliberations of the jury; verdicts; new trial and *venire facias de novo;* opening judgments and decrees;

bills of exceptions; appellate procedure. Attention also is given to the statutory remedy of notice for motion for judgment, attachment, garnishment and suggestion. Special attention is given to the peculiar procedure applying to preliminary injunctions and, occasionally and briefly, to other phases of equity procedure.

314. Practice Court. II. 2 hr. R. PR: Common Law Pleading and Practice and Procedure. Students are given statements of facts, intended to approximate the information furnished by clients to counsel, on the basis of which counsel for plaintiffs are expected to select proper remedies and counsel for defendants are expected to interpose appropriate defenses. The court is called The University Court and performs the functions of a circuit court of the State. For purposes of venue, it may function as The University Court of any county in the state. Cases are litigated, from the issuance of process to final judgment or decree, as in actual practice. The presiding judges are judges of the various circuit courts and of the Supreme Court of Appeals of the State. Members of the class impersonate litigants and witnesses and serve as officers of the court.

SECOND OR THIRD YEAR

250. Administrative Law. II. 4 hr. A comprehensive outline of agency procedures rather than intensive study of any particular agency. Attention is directed primarily though not exclusively to federal agencies. The administrative process itself, including the operation of the Administrative Procedure Act, receives primary emphasis in an effort to qualify students for effective client representation in dealing with the agencies. Judicial and other outside controls of agency action are studied and the extent to which constitutional limitations apply is touched on. Gellhorn and Byse, *Administrative Law, Cases and Comments,* 2d ed.

252. Business Associations. I. 2 hr. A. This course covers the various types of business associations other than corporations. Conduct of business by agents, including the employment relation and workmen's compensation, is considered in some detail. Also considered are joint ventures, partnerships, unincorporated associations, joint stock associations, and business trusts. Steffen, *Cases on Agency.*

254. Coal, Oil and Gas. II. 3 hr. A. Nature of ownership of these subsurface minerals; methods of transferring the ownership thereof; exploitation by means of leases; protection from damage against wrongful taking thereof; partition among co-owners; analysis of leasehold estates, the habendum clause, the drilling clause, lessee's duty of development, assignment of leases and transfers of the reversion; rents and royalties; tort liabilities in connection with operation; coal mining rights and privileges. Summers, *Cases on Oil and Gas.*

256. Creditor's Rights. I. 2 hr. A. Procedures for enforcing the rights of creditors. Individual procedures (execution, garnishment, suggestion and creditors' bills); fraud on creditors; collective procedures (general assignments, creditors' agreements, and bankruptcy). Hanna and MacLachlan, *Cases on Creditors' Rights,* 5th ed., also Hanna and MacLachlan, *Bankruptcy Manual,* 5th ed.

258. Damages. II. 2 hr. The course deals with the rules and principles of law applicable to the determination of the sum of money to be awarded to the plaintiff in a legal action brought to recover for the loss suffered by him as a result of some violation of his legal rights caused by the defendant. One-third of the course is allotted to the study of the rules and standards applicable generally, such as determination of value, requirement of certainty, recovery of interest and expenses of litigation, the doctrine of avoidable consequences, and credit for benefit accompanying injury. The next one-third deals with damages in tort actions and considers exemplary damages, injuries to the person, defamation and business disparagement, deceit, and injuries to the interests of owners of personal property and to the interests of landowners. The final one-third is devoted to a study of the rules and measures of damages for breach of contract. McCormick and Fritz, *Cases and Materials on Damages,* 2d ed.

260. Domestic Relations. I. 2 hr. A. The law in its relation to the creation, stability and breakdown of domestic relations, including engagement, marriage, annulment, separation, divorce, alimony and support, custody, legitimacy and adoption. Compton, *Cases on Domestic Relations.*

262. Insurance. II. 2 hr. This course concentrates on the special problems and documents which revolve about the insurance contract in the fields of marine, life, fire, accident, disability and liability insurance. Among these problems are definition of the risk, definition of the persons insured, defenses, measurement of losses, extent of underwriter's liability, subrogation, contribution between underwriters, and determination of insurance rates. Patterson, *Cases and Materials on the Law of Insurance,* 3d ed., 1955.

264. Labor Law. I. 3 hr. A. Legality of labor objectives and of methods used to gain those objectives, such as strikes, picketing, and boycotts; organization and operation of labor unions; the labor injunction, including the effect of legislation thereon; collective bargaining, the law and contracts resulting therefrom; employer and union unfair labor practices; arbitration, mediation and conciliation. (Casebook to be announced.)

266. Legislation. II. 2 hr. A. A survey of the legislative process; relation of the legislative to the judicial and executive branches; legislation and common law rules; legislative procedure; elements of statutory interpretation. (Casebook to be announced.)

268. Local Government Law. II. 2 hr. A. Nature and function of local government, counties, cities, towns and villages, as well as permanent and *ad hoc* agencies and districts. Creation, annexation, dissolution, rights and duties (zoning, appropriation of funds and contracts), powers and liabilities (contract and tort), personnel, municipal finance (debt limitation and special assessment). (Casebook to be announced.)

270. Negotiable Instruments. I. 3 hr. The law dealing with bills, notes, and checks is examined in conjunction with that concerning the relationship of banks with depositors and with other banks. The course aims to explain how our commercial credit arrangements operate and how claims based on such arrangements are created and protected. (Casebook to be announced.)

272. Sales. I. 3 hr. A. The course deals with the law respecting the transfer of goods for a price, characteristic security arrangements incident to such transfers, and the rights, liabilities, and remedies arising out of such transfers. The common law, the Uniform Conditional Sales Act, and other statutes of a kind in force in West Virginia are stressed, although attention is also given to provisions of the Uniform Sales Act and relevant portions of the proposed Commercial Code. Hennold, *Cases on Sales and Sales Financing.*

SCHEDULE OF COURSES FOR 1959-60[1]

Casebooks and other materials to be used in the courses are indicated *supra* under Description of Courses.

FIRST YEAR

100. Accounting for Lawyers. II. 2 hr. R.	Mr. Collins
102. Common Law Remedies. I. 2 hr. R.	Mr. Lugar
104. Contracts. I. 6 hr. R.	Mr. Donley
106. Criminal Law and Procedure. I. 4 hr. R.	Mr. Dadisman
108. Equity I. II. 2 hr. R.	Mr. Morris
110. Legal Research and Writing. II. 2 hr. R.	Mr. Dadisman
112-113. Property I. I and II. 6 hr. R.	Mr. Brown
114. Torts. II. 5 hr. R.	Staff

[1]The schedule of courses as given here is subject to change.

SECOND YEAR

200. Common Law Pleading. II. 4 hr. R.	Mr. Lugar
202. Constitutional Law. I. 4 hr.	Mr. Dadisman
204. Equity II. I. 3 hr. R.	Mr. Morris
206. Federal Courts. II. 3 hr.	Mr. Brown
208-209. Income Taxation. I and II. 4 hr. R.	Mr. Collins
210. Moot Court. II. 2 hr.	Mr. Lugar
212-213. Property II. I and II. 5 hr.	Mr. Brown
214. Trusts. II. 4 hr.	Mr. Colson

THIRD YEAR

300. Conflicts of Laws. II. 4 hr.	Mr. Collins
302. Corporations. I. 4 hr.	Mr. Colson
304. Equity Pleading and Practice. I. 2 hr.	Mr. Lugar
306. Estate and Gift Taxation. I. 2 hr.	Mr. Collins
308. Evidence. I. 4 hr. R.	Mr. Dadisman
310. Legal Ethics. I. 1 hr. R.	Mr. Dadisman
312. Practice and Procedure. I. 4 hr. R.	Mr. Lugar
314. Practice Court. II. 2 hr. R.	Mr. Lugar

SECOND OR THIRD YEAR

250. Administrative Law. II. 4 hr.	Staff
252. Business Associations. I. 2 hr. A.	Mr. Brown
254. Coal, Oil, and Gas. II. 3 hr A..	Mr. Donley
258. Damages. II. 2 hr.	Mr. Morris
260. Domestic Relations. I. 2 hr. A.	Mr. Morris
262. Insurance. II. 2 hr.	Mr. Morris
264. Labor Law. I. 3 hr.	Staff
266. Legislation. II. 2 hr. A.	Staff
268. Local Government Law. I. 2 hr. A.	Staff
270. Negotiable Instruments. I. 3 hr.	Mr. Morris

The School of Medicine

I. Curriculum In Medicine

GENERAL INFORMATION

During the years from 1868 to 1912 the University offered courses in preclinical medical subjects, the scope and designation of the program changing from time to time. In the earlier years a course was scheduled in anatomy, physiology, and hygiene, and in later years the work had grown to include the first two years of a standard medical curriculum. From 1903 to 1911 the University maintained a College of Medicine, giving the M.D. Degree. The first two years were given in Morgantown. Credit for the last two years was accepted from the College of Physicians and Surgeons of Baltimore, to which students transferred at the end of their second year.

The present School of Medicine had its beginning in 1912. Since that date it has given the first two years of the medical curriculum with no provision for students to transfer to any special school for the completion of their work until 1943, when an agreement was made with the Medical College of Virginia.

MEDICAL CURRICULUM

FIRST AND SECOND YEARS

The School of Medicine now gives only the first two years of the medical curriculum. It is listed as a Recognized School of Basic Medical Sciences by the Council on Medical Education and Hospitals of the American Medical Association. It is also a member of the Association of American Medical Colleges. Inasmuch as only the first two years are given at West Virginia University, students must go elsewhere for the completion of the work for the M.D. degree. There are two possibilities as noted below.

THIRD AND FOURTH YEARS

The Medical College of Virginia. There is an agreement in operation with the Medical College of Virginia at Richmond for the transfer of as many as twenty-five students upon the completion of their second year at West Virginia University. At the Medical College of Virginia these students pay the same tuition as do residents of Virginia. Diplomas conferring the M.D. Degree are issued jointly by the two schools. The benefits of this agreement are available only to students who at the time of entering the medical curriculum had been residents of West Virginia for at least five years.

Other Medical Schools. In each class there are also some students who, by arrangement, transfer to other medical schools of their own choice for the completion of the work.

Expansion of the School of Medicine

The West Virginia Legislature has made provision for the establishment of a four-year School of Medicine as well as schools of Dentistry and Nursing. This means that an increased number of students will be accepted and that the M.D. degree will be granted in the near future.

The Basic Sciences Building which houses the pre-clinical departments of the School of Medicine has been occupied since the fall of 1957. The Teaching Hospital is under construction, and after it is completed it will be possible for the University to confer the M.D. Degree.

BUILDINGS AND EQUIPMENT

Basic Sciences Building

The School of Medicine moved into the Basic Sciences Building of the Medical Center in the Summer of 1957. This building consists of a central core containing lecture rooms, laboratories, and other teaching facilities, to which are attached five wings. The core, measuring 225 by 225 feet, is five stories high, with the wings extended an additional 100 feet to the north, east, and west.

Located on the second, third, and fourth floors of this central area are facilities for teaching anatomy, bacteriology, biochemistry, medicine, pathology, pharmacology, physiology, public health and preventive medicine, and surgery. The School of Dentistry occupies the first floor, while the fifth floor contains mechanical equipment. The wings house the administrative offices, the Medical Library, a 500 seat auditorium and such student facilities as lounge, locker rooms, book store, snack bar, cafeteria and post office. The Schools of Nursing and Pharmacy will be housed in one wing.

Medical Center Library

The Library is located on the second floor of the Administrative Wing, with a stack-well extending from the basement up through the center of the Library. With 20,000 square feet of floor space, exclusive of stacks, it will seat 300 students, house 160,000 volumes, and provide for all auxiliary services. On hand are 38,000 volumes of which two-thirds are periodicals. In the current periodical room about 700 foreign and domestic periodicals are on display. Fourteen sound-proof rooms give space for small group study. There are also a conference room, history of medicine room, and space for microfilm, photostat, and films.

On hand is all the needed material for basic science courses, with excellent representation in the clinical field, to be expanded as the courses progress. While most of the material is in English, there are outstanding periodicals and books in the major foreign languages. The History collection is being expanded to include good holdings in the secondary material, as well as outstanding original material. This collection is augmented with the holdings of the General University Library and the specialized chemistry library in the Chemistry Building on the main campus.

Associated with each department is a Seminar Room planned to include a small relevant working library. The Department of Microbiology has accumulated a collection of over 8,000 papers on anaerobic bacteria in the form of reprints, photostatic copies, and bibliofilm copies.

Material not available in this library may be obtained through interlibrary loan from adjacent and large medical libraries throughout the country.

Clinical and Special Facilities

The following institutions and agencies are co-ordinated effectively for the clinical needs of the School of Medicine.

Hopemont Sanitarium, at Hopemont, West Virginia, is approved by the American Medical Association for residency. It has approximately 400 beds primarily for pulmonary diseases, but a number of beds are set aside for other medical and surgical cases. The School of Medicine has access to this hospital for teaching purposes and the Superintendent and certain members of the staff are also members of the University staff. This arrangement provides an affiliation for instruction in clinical examination of patients.

Monongalia General Hospital and Vincent Pallotti Hospital, two local general hospitals with bed capacities of approximately 160 and 100 respectively, make their facilities available to the School of Medicine for teaching purposes by special arrangement between their administrative officers and the school.

Intramural Clinics. With the cooperation of members of the local medical profession, ambulatory cases are available for examination and demonstration.

Autopsy Service and Pathological Museum. Under an agreement with the coroner of Monongalia County, the Department of Pathology of the School of Medicine performs and records coroner's autopsies. Autopsies are available also for teaching purposes from the Vincent Pallotti Hospital, Monongalia General Hospital, Hopemont Sanitarium, and the private practice of physicians of the area. This arrangement provides about 200 autopsies per year, and affords opportunity for teaching in gross pathology.

ORGANIZATIONS AND LECTURESHIPS

Alumni Association

Graduates of the School of Medicine have a School of Medicine Alumni Association, devoted to the interests of students and graduates and to the encouragement of scientific and professional progress among its members and the medical profession generally. The Alumni Association has recently established an annual lectureship.

John Nathan Simpson Lectureship

In 1933 the West Virginia chapter of Phi Beta Pi medical fraternity instituted the John Nathan Simpson Lectureship, honoring John N. Simpson, first dean of the School of Medicine. An annual lecture is given by someone distinguished in medical research or practice.

Gideon Stanhope Dodds Lectureship

Some years ago a group of interested alumni contributed a fund for securing a portrait of Dr. Dodds, long time professor of histology and embryology. Contributions were sufficiently generous that a substantial balance remained after paying for the portrait.

The income from this fund is now being used to bring to the campus, periodically, some outstanding worker in the field of microscopic anatomy or embryology.

Jacob Schwinn Memorial Lectureship

The Jacob Schwinn Study Club of Wheeling, West Virginia, has established a fund to support an annual lecture at the School of Medicine, to be known as the Jacob Schwinn Memorial Lecture.

EXPENSES; HOUSING; FINANCIAL AID

Cost of a Year's Work

Textbooks and supplies will cost about $90 to $150 per academic year. For information concerning tuition and other fees, see Part I. The total legitimate cost of a nine-month session for medical students will range from $1,100 to $1,600 exclusive of traveling expenses.

Living Accommodations

Medical students, as a rule, must find board and lodging in private dwellings in Morgantown, where the rates for accommodations suitable for medical students are usually somewhat higher than in the Universitiy dormitories. It is suggested that women contact the Office of the Dean of Women for information concerning off-campus housing. Men may obtain such information from the Information Desk in the Administration Building. All arrangements with the landlady or landlord must be made personally by the student.

Loans and Part-time Employment

It frequently happens that students otherwise well qualified for the study of medicine are short of funds to defray necessary expenses. For the assistance of such students certain loans are available, some specifically for medical students, and others are available to students of all colleges in the University. For information about loans, inquiries should be made to Joseph C. Gluck, Director of Student Affairs, West Virginia University.

The West Virginia State Medical Association has established a fund from which there will be granted $1,000 each year to a deserving student in each class of the School of Medicine. Each recipient of such an award agrees to practice in a rural area of West Virginia for a period of time following the completion of his education. Information is available from the office of the Dean of the School of Medicine.

A few part-time jobs are available on the campus and in the School of Medicine. Inquiries concerning these may be made to the University Placement Service or to the School of Medicine.

ADMISSION REQUIREMENTS

Requirements for admission to the School of Medicine of West Virginia University conform to standards of the Association of American Medical Colleges and the Council on Medical Education and Hospitals of the American Medical Association.

All applications for admission are passed upon by the Committee on Admissions and Scholarship of the School of Medicine, composed of members of the medical faculty and the office of the Registrar. Admission is by recommendation of this committee and with the approval of the Dean of the School.

When to Apply for Admission

Application for admission in September, 1960, should be made promptly upon completion of the 1958-59 school year (June, 1959). The latest date for filing an application for September, 1960, is December 1, 1959.

How to Apply for Admission

Application for admission must be made upon blanks which may be obtained from the Assistant Registrar, Medical Center. An unmounted photograph, 2 by 2½ inches in size, must accompany the completed application when it is submitted to the Assistant Registrar, Medical Center, West Virginia University, Morgantown, W. Va.

Credentials

Unless the applicant is a student at West Virginia University, he must ask the registrar of each college he has attended to send, directly to the Assistant Registrar, Medical Center, an official transcript of his work. The University cannot accept transcripts sent by the applicant himself. Work subsequently completed should be reported promptly to the Assistant Registrar, Medical Center.

Re-Applications

Any applicant who is refused admission or who fails to enroll after acceptance, must reapply in the regular manner if he wishes consideration for a subsequent year.

College Credits Required

The council on Medical Education and Hospitals of the American Medical Association publishes a list of about eight hundred colleges which have been approved for premedical education by appropriate agencies.

Applicants from other colleges will receive consideration based upon the merits of the individual case.

Credits submitted by applicants for work done elsewhere than at West Virginia University are evaluated by the Registrar of the University and must meet the general standards set by the University for acceptance of credits by transfer.

The applicant should present a broad general education including, whenever possible, a major in some field, not necessarily a natural science. The Committee on Admissions needs evidence of excellence of academic performance and steady progress toward a goal. An excess of credit hours or higher degrees does little to offset the disadvantage of low grades in securing admission to medical schools. The practice of repeating courses to raise the grade is discouraged. Applicants who have been subject to suspension from this or other medical schools can be admitted only in very exceptional cases and at the discretion of the Committee on Admissions and Scholarship.

The requirements outlined below may be met in either of two ways: First and preferably, by pursuing a course of study leading toward a Bachelor's degree with major and minor fields of the applicant's own choosing, or secondly, by following a more rigidly prescribed curriculum generally offered as a "Pre-Medical" curriculum. In either case the applicant must have completed satisfactorily the minimum requirements listed below.

The applicant must present credit from a college of recognized standing for at least 90 semester hours of work exclusive of military science and physical education. These credits must include the following minimum requirements:

English Composition and Rhetoric ..... 6 *hr.*

Biological Sciences ..... 12 *hr.*
Should include 8 hours of General Zoology or 8 hours of General Biology. Comparative Vertebrate Anatomy is desirable, Vertebrate Embryology is suggested.

Chemistry ..... 16 *hr.*
Must include inorganic chemistry and organic chemistry (aliphatic and aromatic.)

Physics ..... 8 *hr.*

Psychology ..... 3 *hr.*

Two years of modern foreign language is suggested.

Medical College Admission Test

The score on this test is used as one criterion of suitability for admission. The test is sponsored by the Association of American Medical Colleges and is given by the Educational Testing Service, 20 Nassau Street, Princeton, New Jersey. Tests are conducted at various centers in the Spring and Fall of each year. It is of advantage to applicants to take the test in the Spring, as many acceptances are issued before the fall test scores are available. Application to take this test must be made more than a month in advance, and students should consult their advisers about this matter at the beginning of the semester or quarter during which the test is to be taken. Information may also be obtained directly from the Testing Service listed above.

Personal Attributes

Careful consideration is given to those personal qualifications which have a bearing upon fitness of the applicant for the study and practice of medicine. Students must be at least 18 years of age at the time of entrance to the School of Medicine. Good health is a necessary qualification.

Recommendations

Applicants who are not students at West Virginia University should request the premedical adviser or, if there is none, one instructor in each of the departments of biology, physics, and chemistry to send a letter of recommendation to the Assistant Registrar, Medical Center.

Notification of Applicants

All applicants will be informed of the action of the Committee on Admissions and Scholarship as promptly as possible after decisions are reached. The earliest acceptances will probably be issued in October or November.

Advance Deposit Fee

Each applicant is required to deposit $25 before his name is entered upon the official list of those accepted for admission to the School of Medicine. If the applicant enrolls in the School of Medicine this sum is applied to the tuition of the first semester. If the applicant fails to enter the School of Medicine this deposit fee is forfeited by the applicant.

GENERAL RULES OF THE SCHOOL OF MEDICINE

Registration

All medical students are expected to register at the Medical Center on the days set apart for registration at the beginning of each semester. These dates are given in the University Calendar (See Part IV).

No student will be permitted to register in the School of Medicine after the first week of classes.

Students in other colleges, schools, or divisions of the University who wish to elect courses in the School of Medicine must satisfy the prerequisites for such courses

and must receive permission from the Committee on Admissions and Scholarship and the professor in charge of the course.

FEES

Fees and charges for students in the School of Medicine are explained in Part I of this *Catalog*. All University fees are subject to change without notice.

Immunizations

The School of Medicine requires that during the first semester of the first year all medical students must complete certain prescribed immunizations and diagnostic procedures. These are administered without charge by the University Health Service.

Withdrawals

A student who wishes to withdraw from a course or from the School of Medicine during the semester should do so in the regular manner. Consult the office of the Assistant Registrar, Medical Center for instructions as to withdrawal.

Examinations

It is the policy of the various departments of the School of Medicine to conduct examinations from time to time in order that both faculty and students may be kept aware of the individual student's progress. A formal final examination is conducted at the end of each course.

In addition to these departmental examinations, which help serve as a basis for recording grades in various subjects, other examinations may be conducted at times for other purposes. At the end of the first year a comprehensive examination, designed by the entire faculty and intended to serve as a measure of adequacy of curriculum coverage, may be required. It is to be emphasized that this examination will not be used to determine a student's grade in any course or courses.

After the end of the second year, the students may be required to take Part I of the National Board of Medical Examiners Examination, which is usually given in mid-June. Since this is a school requirement, it will be without cost to the student. However, if the student wishes to utilize his score on this examination as part of his performance for certification by the National Board of Medical Examiners, he can arrange to do so by the payment of an additional fee direct to that Board. More complete information may be obtained in the office of the Dean of the School of Medicine.

Promotions and Suspensions

The Committee on Admissions and Scholarship of the School of Medicine is responsible for administration of the following rules. Exceptions may be made only on recommendation of this Committee. The application of rules on suspension is not automatically changed by removal of "I" grades or by the repetition of courses in other medical schools. Permission for repetition of work in this medical school may be granted only by the Committee on Admissions and Scholarship.

1. Students must register for all courses scheduled for each semester.
2. A student who does not make passing grades in at least half of the registration hours in any semester is automatically suspended (University rule).
3. A student who during any two consecutive semesters does not attain a grade-point average of 1.5 for all courses for which he is registered is thereby automatically suspended even though he may pass in all courses.
4. No student will be permitted to register for work of the second year until all courses for the first year have been successfully completed.

Incomplete Courses

The grade of "I" is given when the instructor believes the work is unavoidably incomplete or that a supplementary examination is justifiable. If a grade of "I" is not removed before the end of the next semester in which the student is in residence, by satisfactory completion of the work, it becomes a failure unless special

permission to postpone the work is obtained from the Committee on Admissions and Scholarship (University Rule).

For medical students the following schedule is established: Incomplete courses for the first semester should be completed by examinations or other specified work not later than the week immediately following Easter vacation of the same academic year.

Incomplete courses for the second semester of the first year should be completed not later than the first day of registration in the following September, in order that the eligibility of the student to enter the second year may be determined.

Completion of courses during the second semester of the second year shall be upon a schedule determined by agreement between the instructor concerned and the Committee on Admissions and Scholarship.

It is the responsibility of the student to consult the instructor about the means and schedule for making up incomplete courses.

Departure from Scheduled Work

Medical students must register for all prescribed courses for each semester except by special permission from the Committee on Admissions and Scholarship of the School of Medicine. This permission is not valid until it has been reported to the Assistant Registrar, Medical Center for record.

Proficiency in English

The School of Medicine, in compliance with a recommendation of the University Senate, has adopted the following requirement:

"Each undergraduate must pass a proficiency examination in English after the beginning of his junior year in order to qualify for graduation. He shall take this examination during the first semester of his junior year, and if not declared proficient, shall repeat the examination as many times as necessary."

This examination will be given by an English Proficiency Board named by the President of the University.

This regulation applies to all students who begin their work after June 1, 1952. Students who have not previously satisfied this requirement must take this examination in their first semester of registration in the School of Medicine.

Degrees

The School of Medicine gives no degree in medicine except in cooperation with the Medical College of Virginia as noted on page 359.

Upon completion of the second year in the School of Medicine, students receive the *Bachelor of Science* Degree. At the end of the first year, those students who have met certain requirements of the College of Arts and Sciences in West Virginia University receive the *Bachelor of Arts* Degree.

The degree of *Doctor of Medicine* will be granted by the University following the completion of clinical facilities now under construction. The class entering the School of Medicine in the fall of 1959 should be eligible to receive this degree in the spring of 1963.

The *Master of Science* Degree is offered by certain departments of the School of Medicine. Properly qualified University graduate students are eligible. For complete information consult the Chairman of the Committee on Graduate Studies in the School of Medicine or see the *Announcements* of the Graduate School.

Admission to the Graduate School of West Virginia University does not of itself assure permission to take courses in departments of the School of Medicine. Persons wishing to take any courses in the School of Medicine for graduate credit should consult the Chairman of Graduate Study in the School of Medicine and the department concerned well in advance of registration day.

Curriculum Revision

The curriculum of the School of Medicine is constantly under study by a special committee and by all members of the faculty. In the interests of offering the best possible course of instruction, curriculum revisions are made from time to time.

COURSES OF INSTRUCTION

NOTE--Courses marked "*" are required of first-year students; those marked "†" are required of second-year students.

The following abbreviations are used:

I—a course given in the first semester.
II—a course given in the second semester.
I, II—a course given in each semester.
Yr.—a continuous course extending through two semesters.
S—a course given in the Summer Session.
hr.—number of credit hours per course.

For convenience each course is designated by the name of the department offering the courses and the number of the course. The plan for numbering courses at West Virginia University is as follows:

Courses 1 to 99—offered primarily for freshmen and sophomores

Courses 100 to 199—offered primarily for juniors and seniors

Courses 200 to 299—advanced courses for juniors, seniors, and graduates

Courses 300 to 399—offered to graduates only

In addition to required courses there are listed some elective courses for the benefit of other University students who may need them. They are given only when, in the opinion of the department concerned and of the Dean, it is considered advisable. If there should arise a demand for any of these courses, the School of Medicine will try to meet the need, but the schedule will be contingent upon the extent to which staff members are occupied with the required medical courses. For full information, see *Announcements of the Graduate School.*

BIOCHEMISTRY

Professor KRAUSE; Assistant Professors GANGLOFF, LOTSPEICH, and CANADY; Instructor NELSON.

139. GENERAL BIOCHEMISTRY. I. 4 hr. PR: Inorganic and organic chemistry. Quantitative analysis desirable. For students in Home Economics. Open to other qualified students.

230. APPLIED BIOCHEMISTRY. S. 2 hr. PR: Inorganic and organic chemistry. Primarily for high-school teachers. Not for graduate chemistry majors. An introduction to some of the practical chemical reactions which are carried out by living organisms with special reference to man.

231.* MEDICAL BIOCHEMISTRY. I. 7 hr. PR: Chemistry 233, 238 (Organic Chemistry). Lect. 4 hr. per week; lab. 8 hr.

237, 238. SEMINAR IN BIOCHEMISTRY. I, II. 1 hr. per semester. PR or Conc.: Biochem. 231. Presentation and discussion of special topics.

239. CLINICAL BIOCHEMICAL TECHNIQUES. II. 4 hr. PR: General or Medical Biochemistry. Primarily for students in Medical Technology. Open to other qualified students. Primarily a laboratory course designed to study chemical techniques used in clinical laboratories.

330, 331. BIOCHEMICAL PREPARATIONS. I, II. 2-5 hr. Arranged. PR: Biochem. 231 or equivalent. Emphasis on biochemical methods.

332. ENZYME KINETICS. II. 1 hr. PR: General or medical biochemistry. Primarily for graduate students or other properly qualified students. An introduction to the physical mechanisms of enzyme action.

333, 334, 335, 336. RESEARCH IN BIOCHEMISTRY. I, II, S. 1-6 hr. Arranged. PR: Biochem. 231 or equiv.

GROSS AND NEUROLOGICAL ANATOMY

Professor Johnson; Associate Professor Boyer; Instructors Goodge and Swindler; Clinical Instructors Pereyma, Shaffer, and Smith.

201.* Gross Anatomy. I. 6 hr. PR: Gen. Zool. Comparative anatomy and embryology desirable. The gross anatomy of the human body studied by a complete dissection. Consideration is given to the embryologic explanation of variations and anomalies. Roentgenographic anatomy is included. Lec. 3 hr. per week; lab. 6 hr.

202.* Gross Anatomy. II. 6 hr. PR: Anat. 201. Continuation of Anat. 201. Lect. 3 hr. per week; lab. 10 hr.

203.* Neuroanatomy. II. 4 hr. PR: Anat. 201. The gross and microscopic structure of the central nervous system with a consideration of its functional anatomy, embryology, and the more important types of maldevelopment. Lect. 2 hr. per week; lab. 4 hr.

MEDICINE

Associate Professors Sleeth and Lawless; Assistant Professors Maxwell, Whittlesey, and Starkey; Instructors Johnson and Harley.

275.† History of Medicine. I. 1 hr. A brief history of the development of the science and art of medicine. Lect. 1 hr. per week.

277.* Correlation Clinic. I. 1 hr. Practical demonstrations of the relation of the basic sciences to clinical medicine using the case method. Members of the various basic science departments participate along with the Department of Medicine.

278.* Correlation Clinic. II. 1 hr. A continuation of Medicine 277.

291.† Physical Diagnosis. I. 2 hr. Lecture and demonstration of the technique of taking clinical histories and performing physical examinations.

292.† Physical Diagnosis. II. 1 hr. Practical experience in examination of normal and abnormal subjects.

293.† Introductory Medicine. I. 1 hr. Lectures and demonstrations of patients exhibiting the cardinal manifestations of disease and specific disease entities.

294.† Introductory Medicine. I. 1 hr. A continuation of Medicine 293. Includes an introduction to principles of Pediatrics.

MICROBIOLOGY AND PUBLIC HYGIENE

Professor Slack; Assistant Professors Harrell, Dyson, and Zahler; Instructor Hall; Lecturer Viggiano; Assistant Pavlech.

218.† Medical Parasitology. II. 2 hr. PR: Consent. Introduction to animal organisms as human pathogens and vectors of disease. Lect. 1 hr., lab. 2 hr. per week.

220. Pathogenic Microbiology for Pharmacy Students. II, S. 5 hr. PR or Conc: Chem. 233 (organic). A detailed study of pathogenic micro-organisms with emphasis on material important to Pharmacy. Lect. 3 hr., lab. 6 hr. per week. Graduate students required to do 1 hr. additional work per week for 3 hr. credit.

221.† Medical Microbiology. I. 6 hr. PR or Conc: Chem. 233, 238 (organic), Med. Biochem. 231 desirable. Detailed study of the pathogenic micro-organisms, including morphology, physiology, identification and mechanisms of disease production, as well as response of body to bacterial diseases. Lect. 3 hr., lab. 9 hr. per week.

222.† Public Hygiene. II. 2 hr. PR: Consent. Introduction to principles of public health. Lect. 2 hr. per week.

223. Pathogenic Microbiology for Medical Technology Students. II, S. 5 hr. PR or Conc: Chem. 131 (organic). A detailed study of pathogenic micro-organisms

with emphasis on material important to Medical Technology. Lect., 3 hr., lab. 6 hr. per week. Graduate students required to do 1 hr. additional work per week for 5 hr. credit.

224. Medical Parisitology for Medical Technology Students. II. 4 hr. PR: Consent. Study of animal parasites and vectors of disease with emphasis on laboratory methods. Lect. 3 hr., lab. 3 hr. per week.

226, 227. Special Problems in Microbiology. I, II, S. 2-5 hr. per sem. Hours to be arranged. PR: Microbiol. 221 or equiv.

228. Diagnostic Microbiology. I, II, S. 3 hr. Hours to be arranged. PR: Microbiol. 221 or equiv. Application of cultural, serological and animal methods as aids to the diagnosis of human diseases.

229. Determination Microbiology. I, II, S. 2-5 hr. per sem. Hours to be arranged. PR: Microbiol. 221 or equiv. Use of morphological, physiological, and immunological methods for the identification of micro-organisms.

320, 321. Advanced Microbiology. I, II, S. 2-5 hr. per sem. Hours to be arranged. PR: Microbiol. 221 or equiv. and graduate standing. Advanced theoretical and practical studies in the fields of bacterial physiology, immunology, fungi, rickettsiae, and viruses.

323, 324, 325, 326. Research in Microbiology. I, II, S. 1-6 hr. per sem. Hours to be arranged. PR: Microbiol. 221, 320, or equiv.

MICROANATOMY AND ORGANOLOGY

Professor Williams; Associate Professors Higginbotham and Reyer.

205.* Microanatomy and Organology. I. 6 hr. PR: Zool. 1, 2 or equiv. The minute anatomy and functional aspects of tissues and organs, with brief reviews of their embryonic development. Lect. 3 hr., lab. 6 hr. per week.

206. Special Problems in Microanatomy. II. 2-4 hr. PR: Microanat. 205, 209, or equiv.

208. Experimental Embryology. II. 3 hr. PR: Consent, Biochem., Embryol., and Microanat. 205 or 209 or equiv. A lecture and laboratory course in the experimental analysis of development. Different aspects of the initiation of development, early morphogenesis, differentiation, growth, regeneration and the origin of congenital anomalies will be considered.

OBSTETRICS

Professor Van Liere.

296.† Obstetrics. II. 2 hr. PR: Anat. 201, 202 (Human anatomy). Physiol. 241, Pathol. 251. An introductory course in obstetrics. Lect. 2 hr. per week.

PATHOLOGY

Professor Hobbs; Associate Professor Ehrgott; Assistant Professors Harley and Love.

150. Elementary Histology. I. 3 hr. A study of the elements of histological structure, including blood. Lect. 2 hr. per week; lab. 3 hr. Required of students in Medical Technology. Other students as approved by the department.

151. Clinical Laboratory Diagnostic Methods. II. 4 hr. Study of blood, exudates, transudates, gastric contents, urine, etc. Lect. 2 hr. per week; lab. 6 hr. Required of students in Medical Technology. Other students as approved by department.

251.† General and Tumor Pathology. I. 6 hr. PR: approval of department head. Includes both gross and microscopic studies with demonstrations. Lect. 4 hr. per week, lab., 10 hr.

252.† Special Pathology. II. 2 hr. PR: approval of department head. A study of special diseases with gross and microscopic specimens from selected autopsies. Lect. 1 hr., lab. 2 hr. per week.

254.† Clinical Pathology. II. 3 hr. PR: approval of department head. A laboratory course in blood, gastric contents, urine, etc., and their pathological and clinical significance. Lect. 2 hr. per week, lab. 6 hr.

256. Advanced Pathology. I or II. 3 hr. PR: Pathology 251. Microscopic and gross specimens from selected autopsies. Open to properly qualified students.

351. Experimental Pathology. I or II. 2-5 hr. Hours to be arranged. Open to properly qualified students.

PHARMACOLOGY

Professor Watts; Associate Professors McKinney and Saxe; Lecturer Tucker.

260. Fundamentals of Pharmacology. I. 5 hr. PR: Physiol. 141. For students in the School of Pharmacy. Lect. 4 hr., lab 3 hr. per week.

262.† Medical Pharmacology. II. 6 hr. PR: Physiol. 141 or 241. Origin, chemistry, pharmacodynamics, toxicology, therapeutic use, and dosage of drugs commonly used in man and animals with emphasis on the fundamental mechanisms of drug action. Lect. 5 hr., lab. 6 hr. per week.

266. Biochemorphology. II. 2 hr. PR: Pharmacol. 262, or Chem. 238 or 277. Relation between chemical constitution and physiological action of medical agents. Lecture.

360, 361. Bioassay and Comparative Pharmacology. I, II, S. 3 hr. per sem. PR: Pharmacol. 262, or Chem. 238 or 277 and Microanat. 205, or Pharmacy 110. Cellular pharmacodynamics and comparative mammalian pharmacology. Species differences in response to drugs. Development of technique in bioassays employed for control by the pharmaceutical industry.

362, 363. Advanced Pharmacology. I, II, S. 2-5 hr. per sem. Hours to be arranged. PR: Pharmacol. 360. Rational investigation of new drugs and comparison with presently used clinic drugs.

364. Toxicology. I, II, S. 1 hr. PR: graduate status in pharmacology or chemistry. Toxic effects of industrial chemicals and drugs. Allowable concentrations in industry, and antidotal measures.

365. Seminar in Pharmacology. I, II. 1 hr. per sem. PR or Conc: Pharmacol. 262 or graduate status in basic medical sciences. Presentation and discussion of special material.

366, 367, 368, 369. Research in Pharmacology. I, II, S. 1-6 hr. per sem. PR: graduate status in physiology, chemistry, or agriculture. Determination of biological activity or toxicity of chemicals that may be used for drugs, solvents, insecticides, or poisons.

PHYSIOLOGY

Professors Northup, Van Liere, and Stickney; Assistant Professor Lindsay; Instructor Gilfoil.

141. Elementary Physiology. I. 4 hr. PR: Biol. 1, 2 or Zool. 1, 2; PR or Conc: Chem. 131 (organic chem.). For students in Pharmacy and Medical Technology. Lect. 3 hr., lab. 3 hr. per week.

241.* Physiology. II. 9 hr. PR: Zool. 231 (comparative anatomy), Biochem. 231. Physiology for medical students. Lect. 7 hr., lab. 8 hr. per week.

243. Physiology. I. 6 hr. PR: Zool. 1, 2, organic chem. Human physiology, intermediate level.

244, 245. Special Topics. Yr. 2-5 hr. PR: Physiol. 241.

246. Seminar in Physiology. No credit.

340, 341. Advanced Physiology of Circulation and Respiration. Yr. 2-5 hr. Hours to be arranged. PR: Physiol. 241. Historical review, advanced topics, and latest developments in physiology of circulation and respiration.

342. Physiology of Gastro-Intestinal System. II, S. 2-5 hr. Hours to be arranged. PR: Physiol. 241. Historical review, advanced topics and latest developments in physiology of the digestive tract.

343, 344. Nervous Physiology and Special Senses. Yr. 2-4 hr. Hours to be arranged. PR: Physiol. 241, Psych. 1 or Neuroanat. 203. Historical review, advanced topics, and latest developments in phsyiology of the nervous system and the organs of special sense.

345. Endocrinology. I, S. 2-5 hr. Hours to be arranged. PR: Physiol. 243. Historical review, advanced topics, and latest developments in physiology of the endocrines.

346, 347, 348, 349. Research in Physiology. Yr. 1-6 hr.

SURGERY

Associate Professor C. B. Pride; Instructors M. Pride and Heiskell; members of the Department of Anatomy.

281.† Principles of Surgery. I. 1 hr. Lectures and demonstrations of the fundamental principles of surgery. 2 hr. per week.

282.† Principles of Surgery and Surgical Anatomy. II. 2 hr. Demonstrations of operative techniques; lectures and demonstrations of the importance of anatomy to clinical surgery. 2 hr. per week.

II. Curriculum in Medical Technology

COMMITTEE ON MEDICAL TECHNOLOGY

M. L. Hobbs (Professor of Pathology and Clinical Pathology), Chairman
W. A. Ehrgott (Associate Professor of Pathology)
W. K. Harrell (Assistant Professor of Microbiology)
F. J. Lotspeich (Assistant Professor of Biochemistry)
B. F. Love, (Technical Director of Curriculum in Medical Technology)
D. W. Northup (Professor and Head of Physiology)
Lyle E. Herod (Assistant Registrar, Medical Center)

GENERAL INFORMATION

The curriculum in Medical Technology leads to the degree of Bachelor of Science (Medical Technology). This curriculum prepares students to serve as medical technologists in hospitals, clinics, reserach laboratories, and in private and public health laboratories.

Training standards for medical technologists are under general supervision of the Council on Medical Education and Hospitals of the American Medical Association. Properly qualified graduates, upon passing the required examinations, may be eligible for certification by the Board of Registry of Medical Technologists of the American Society of Clinical Pathologists.

The technical training in Medical Technology, leading to the Bachelor of Science Degree, requires two years. Admission to this curriculum is based upon two years of collegiate work, including the required subjects, as fully described below. This work may be taken in any institution of recognized standing. The College of Arts and Sciences of West Virginia University offers a pretechnology program under the supervision of the premedical adviser.

In the third and fourth years the student is under the jurisdiction of the School of Medicine, but no course taken during these years may be counted toward the M.D. Degree.

The work of the last year is largely individual in nature, carried on in laboratories and hospitals. The students are considered as temporary members of the laboratory staff and are subject to the usual regulations and discipline of the regular staff. This work occupies one entire calendar year of twelve months.

REQUIREMENTS FOR ADMISSION

For admission to the curriculum in Medical Technology, the applicant must have graduated from high school and present at least 15 units of high school work acceptable to the University, including one unit in elementary algebra and one unit in plane geometry.

College Credits Required

Two years of college work with a total of 67 hours, exclusive of military science, as specified below:

English. 12 semester hours. (Must include 6 hours composition and rhetoric and 6 additional hours in literature.)

Modern Foreign Language. 12 hours.

Biological Science. 8 hours. (General Zoology or General Biology are acceptable.)

Chemistry. 16 hours. (Inorganic Chemistry, 8 hours; Quantitative Analysis, 4 hours; Organic Chemistry, 4 hours.)

Physics. 8 hours.

Physical Education. 4 hours for women, 2 hours for men. (University requirements for students taking first two years in residence.)

Electives to complete the required hours. Electives should be in fields not covered in the required subjects. Algebra is strongly recommended. Student should avoid subjects included in the work of the third year, such as bacteriology, organic chemistry and comparative anatomy.

Other Qualifications

Only a limited number of students can be accommodated in the Curriculum in Medical Technology. Completion of the two-year pretechnology program outlined above does not of itself assure admission to the third year for the technical training. Students wishing to be considered for this work should make application upon forms which may be obtained from the Assistant Registrar, Medical Center. Application should be made in February of the second pre-technology year. When applying, unless he is in residence at West Virginia University, the student should request the registrar of his college to send an official transcript of his work to the Assistant Registrar, Medical Center.

Admission is on recommendation of the Committee on Medical Technology and with the approval of the Dean of the School of Medicine. Notification will be sent after April 1.

Preference is given to residents of West Virginia. Scholarship and general fitness are considered in selecting students. Applicants from institutions other than West Virginia University should request letters of recommendation from two responsible faculty members who are qualified to write concerning them.

Immunizations

The School of Medicine requires that during the first semester of the first year all students in Medical Technology must complete certain prescribed immunizations and diagnostic procedures. These are administered without charge by the University Health Service.

FEES

Fees and charges for medical technology students during their junior and senior years are explained in Part of this *Catalog*. All University fees are subject to change without notice.

REQUIREMENTS FOR THE DEGREE

The degree, Bachelor of Science (Medical Technology), will be given upon completion of the curriculum outlined below.

The administration of scholarship standards is in charge of the Committee on Medical Technology. The following rules apply:

A student who does not make passing grades in at least half of the registration hours during any semester is automatically suspended. (General University rule.)

Eligibility to begin work of the fourth year is contingent upon the demonstration of personal aptitude for this work and upon full completion of the curriculum of the third year. The grade-point average for the third year must be at least 1.5 per registration hour.

Before being accepted in the fourth year clinical phase of medical technology, an approved transcript evaluation from the Registry of Medical Technologists of the American Society of Clinical Pathologists, Muncie, Indiana, must be on file in the office of the Assistant Registrar, Medical Center.

JUNIOR YEAR

During the third and fourth years the student is under the jurisdiction of the School of Medicine. This part of the curriculum is open only to students approved by the Committee on Medical Technology.

During the first year of enrollment in the School of Medicine students must take the University examination to test proficiency in English, unless this requirement has been satisfied previously.

First Semester	*Hr.*	*Second Semester*	*Hr.*
Comparative Anatomy 231	5	Parasitology 255	4
Pathology 150	3	Microbiology 223	5
Biochemistry 139	4	Biochemistry 239	4
Physiology 141	4	Pathology 151	4

SENIOR YEAR

Work of the fourth year consists of practical experience under careful supervision in laboratories and hospitals. At present this training is given in the Department of Pathology of West Virginia University, the State Hygienic Laboratory, the Charleston General Hospital, and Fairmont General Hospital. The work covers the subjects listed below although these separate fields of training cannot be given in sequence as separate courses. This work continues throughout an entire calendar year. Students register in the University for a Summer Session (about 15 weeks) in addition to two regular semesters.

The professional courses required of fourth-year students follow:

100. Laboratory Practices. Summer term. 1 hr. Based upon the experience of the initial summer of the fourth year.

101. Applied Bacteriology. Yr. 4 hr. Methods of sterilization, preparation of culture media and vaccines, staining and study of bacteria, etc.

102. Applied Parasitology. Yr. 2 hr. Examination of feces for parasites and ova and of blood smears for parasites of the blood.

103. Applied Serology. Yr. 4 hr. Agglutination, precipitation, and complement fixation tests in serodiagnosis of syphilis and other diseases.

104. Clinical Chemistry. Yr. 3 hr. Chemical examination of urine, blood, gastric contents, and spinal fluid for abnormal constituents and increased or decreased amounts of normal constituents.

105. Electrocardiography. Yr. 2 hr. Study of the electrocardiograph machine and its practical employment on patients.

106. Metabolimetry. Yr. 2 hr. Study of the metabolism of carbohydrates, proteins, fats, minerals, etc., and the technique of basal metabolism.

107. Microtechnique. Yr. 3 hr. Histological technique including paraffin, celloidin, and frozen sections with routine and special staining procedures.

108. Normal Hematology. Yr. 4 hr. Methods of obtaining blood, hemoglobin determinations, enumeration of erythrocytes, leucocytes, and blood platelets; study of stained blood films, etc.

109. Special Hematology. Yr. 3 hr. Study of blood dyscrasias, hemorrhagic diseases, blood groups, etc.

110. Record Keeping. Yr. 3 hr. Study of laboratory and hospital forms with proper methods of recording findings and filing laboratory reports.

111. Urine Analysis. Yr. 5 hr. Clinical examination of normal and abnormal urines including general characteristics, qualitative and quantitative chemical analyses, microscopic studies, renal-function tests, etc.

The Division of Military Science and Tactics and Air Science

Professors Roberts and Milne; Associate Professors Bennett, Bowers, Gabriel, Hartwig, Keleher, Maynard, Pierce, Rollings, Wawrukiewicz, and Wilson; Instructors Dillon, Haley, and McQuire.

BASIC COURSE—FIRST YEAR

Military Science 1. 2 hr. School of the Soldier and Exercise of Command; Organization of the Army and ROTC; Individual Weapons and Marksmanship. 3 hr. per week.

Air Science 1. 2 hr. Introduction to Air Force ROTC; Elements and Potentials of Air Power; Air Vehicles and Principles of Flight; Military Instruments of National Security; Professional Opportunities in the United States Air Force; Leadership Laboratory. 3 hr. per week.

Military Science 2. 2 hr. School of the Soldier and Exercise of Command; Individual Weapons and Marksmanship; American Military History. 3 hr. per week.

Air Science 2. 2 hr. PR: Air Sci. 1. Continuation of Air Sci. 1. 3 hr. per week.

BASIC COURSE—SECOND YEAR

Military Science 3. 2 hr. School of the Soldier and Exercise of Command; Map and Aerial Photograph Reading; Crew-Served Weapons and Gunnery. 3 hr. per week.

Air Science 3. 2 hr. PR: Air Sci. 2 or equiv. The Evolution of Aerial Warfare; Elements of Aerial Warfare; Operations (employment of Air Forces); Leadership Laboratory. 3 hr. per week.

Military Science 4. 2 hr. School of the Soldier and Exercise of Command; Crew-Served Weapons and Gunnery. 3 hr. per week.

Air Science 4. 2 hr. PR: Air Sci. 3 or equiv. Continuation of Air Sci. 3. 3 hr. per week.

ADVANCED COURSE—THIRD YEAR

Military Science 105. 3 hr. School of the Soldier and Exercise of Command; Leadership; Military Teaching Methods; Organization, Functions, and Missions of the Arms and Services. 5 hr. per week.

Air Science 105. 3 hr. PR: Air Sci. 4 or equiv.* Communications and Problem Solving; Social and Psychological Determinants of Air Force Leadership. Leadership Laboratory. 5 hr. per week.

Military Science 106. 3 hr. School of the Soldier and Exercise of Command; Small Unit Tactics and Communications. 5 hr. per week.

Air Science 106. 3 hr. PR: Air Sci. 105. Staff Action and Decision Making; Military Justice and Problems in Air Force Leadership; Leadership Laboratory. 5 hr. per week.

*Equivalent credit as granted by the Registrar of the University and the Professor of Air Science. Students who have had previous active service and desire to enter this course must have their requirements and status determined by the Professor of Air Science at the time of initial entry into the University. See Part I of this **Catalog** for general regulations of the Division of Military Science and Tactics.

ADVANCED COURSE—FOURTH YEAR

MILITARY SCIENCE 107. 3 hr. School of the Soldier and Exercise of Command; Command and Staff; Estimate of the Situation and Combat Orders; Military Intelligence; the Military Team; Team Management; Troop Movements. 5 hr. per week.

AIR SCIENCE 107. 3 hr. PR: Air Sci. 106. Summer Camp Critique; Principles of Leadership and Management (Seminar); Career Guidance; Military Aviation and Evolution of Warfare; Leadership Laboratory. 5 hr. per week.

MILITARY SCIENCE 108. 3 hr. School of the Soldier and Exercise of Command; Supply and Evacuation; Motor Transportation; Military Administration; Military Justice; Role of the United States in World Affairs; Leadership; Officer Indoctrination. 5 hr. per week.

AIR SCIENCE 108. 3 hr. PR: Air Sci. 107. Military Aspects of World Political Geography; Briefing for Commissioned Service; Leadership Laboratory. 5 hr. per week.

The School of Music

GENERAL INFORMATION AND DEGREE REQUIREMENTS OF THE SCHOOL OF MUSIC

The School of Music of West Virginia University is a member the of National Association of Schools of Music. The requirements for entrance and for graduation as set forth in this bulletin are in accordance with the published regulations of that organization.

The School of Music is housed in a magnificent new building. Constructed at a cost of over one million dollars, the building is completely modern in every respect, with special attention to acoustical problems.

Included among its facilities are 17 teaching studios, 30 practice rooms, band and orchestra rehearsal room, 3 classrooms, student lounge with adjoining kitchen, library room, 4 listening rooms, instrument repair and storage rooms, recital hall (seating approximately 400), dressing rooms, projection and recording room, and administrative offices.

The School maintains a Symphony Orchestra, a Concert and Marching Band, a University Choir, a Choral Union, a Women's Glee Club, and a Men's Glee Club, as well as numerous small ensembles. Many concerts are given throughout the year by the School of Music, and in addition a number of outstanding concerts are provided by the University Convocation Committee and the Morgantown Community Concert Association. Morgantown's close proximity to Pittsburgh makes that city's musical events available to University students.

The Bachelor of Music Degree

The Bachelor of Music Degree is conferred upon any student who complies with the general regulations of the University concerning degrees, satisfies all entrance and departmental requirements, and completes one of the following curricula in music with an average of two grade-points per semester-hour:[1]

A. Piano, pipe-organ, band or orchestral instruments
B. Theory and composition
C. Music Education

A freshman student who has less than a 1.00 (D) grade-point average at the close of his second semester is automatically suspended from the School of Music. A freshman who has less than a 1.5 grade-point average at the close of his second semester is automatically placed on probation for the following semester. The terms of probation will be determined by the Scholarship Committee.

For admission to the Junior year in the School of Music, a student must have established a 2.0 (C) grade-point average.

For admission to the senior year, all candidates for the degree of Bachelor of Music must demonstrate proficiency in playing at sight piano accompaniments of moderate difficulty.

Before graduation, all candidates for the degree of Bachelor of Music must have four credits in public performances, on the following basis: one credit for each solo performance; one-half credit for each ensemble performance or each accompaniment on piano or organ of major length and difficulty. Three of the four credits must be in solo performance.

All music majors are required to participate not less than 2 clock hours per week in a major performing group.

COMMITTEES

Scholarship: Professor Duncan, Chairman; Associate Professors Brown and Wood; Assistant Professors Lorince, McGregor, and Schaefer.

Concerts and Recitals: Assistant Professor McEnney, Chairman; Associate Professors Manning and Wood; Assistant Professor McGregor.

Graduate Studies: Assistant Professor Schaefer, Chairman; Professor Duncan; Associate Professors Brown, English, and Haugland.

[1]Not more than 8 of the grade-points earned in Glee Club, Chorus, Orchestra, and Band will be counted towards requirements for graduation.

CURRICULUM IN APPLIED MUSIC

Leading to the Degree of Bachelor of Music in Piano, Organ, Harp, or in any of the String, Wind, or Percussion Instruments

Course Requirements

Music

	Hr.		Hr.
Applied Music Major	32	M. 183 Conducting	3
Applied Music Minor	16	M. 140 and 141, History of Music (3 hr. ea.)	6
M. 1, 2, 3, 4, Theory (4 hr. each)	16	M. 281 Survey of Symphonic Music	2
M. 107 Analysis of Musical Form	3	Glee Club, Chorus, Band, or Orchestra	4
M. 109 and 110, Counterpoint (2 hr. ea.)	4	Music Electives	6
M. 113 and 114, Composition (2 hr. ea.)	4	M. 199 Recital	2
M. 117 Instrumentation, and M. 118 Orchestration, or M. 119 Band Arranging or M. 120 Choral Arranging	4	Total	102

Academic

	Hr.		Hr.
Foreign Language (French, German or Italian)	6	Military or Air Science (Men)	8
English	12	Electives	10
English 1 and 2 (6 hr.) or Communications 1 and 2 (6 hr.)		Women	32
English 18 or English 21 (Communications) (3 hr.)			
English 3, 4, 5, or 6 (3 hr.)		Men	38
Phys. Ed. (2 hr. Men, 4 hr. Women)	2-4		

Courses By Years

FRESHMAN

First Sem.	Hr.	*Second Sem.*	Hr.
Applied Major	4	Applied Major	4
Applied Minor	2	Applied Minor	2
M. 1	4	M. 2	4
Glee, Cho., Band, or Orch.	0	Glee, Cho., Band, or Orch.	0
English 1	3	English 2	3
Phys. Ed.	1	Phys. Ed.	1
Fr., Ger., or Ital.	3	Fr., Ger., or Ital.	3
(W)	17	(W)	17
Mil. or Air Sci. 1 (men)	2	Mil. or Air Sci. 2 (men)	2
(M)	19	(M)	19

SOPHOMORE

First Sem.	Hr.	*Second Sem.*	Hr.
Applied Major	4	Applied Major	4
Applied Minor	2	Applied Minor	2
M. 3	4	M. 4	4
M. 140	3	M. 141	3
Glee, Cho., Band, or Orch.	0	Glee, Cho., Band, or Orch.	0
English 18 or 21	3	Eng. 3, 4, 5, or 6	3
Phys. Ed. (W)	1	Phys. Ed. (W)	1
(W)	17	(W)	17
Mil. or Air Sci. 3 (men)	2	Mil. or Air Sci. 4 (men)	2
(M)	18	(M)	18

JUNIOR

First Sem.	Hr.	*Second Sem.*	Hr.
Applied Major	4	Applied Major	4
Applied Minor	2	Applied Minor	2
M. 107	3	M. 110	2
M. 109	2	Music elec.	4
Music elect.	2	Glee, Cho., Band, or Orch.	1
Glee, Cho., Band, or Orch.	1	Elective	3
Elective	3		
	17		16

SENIOR

First Sem.	Hr.	*Second Sem.*	Hr.
Applied Major	4	Applied Major	4
Applied Minor	2	Applied Minor	2
M. 113	2	M. 114	2
M. 112	2	M. 118 or 119 or 120	2
M. 183	3	M. 199	2
M. 281	2	Glee, Cho., Band, or Orch.	1
Glee, Cho., Band, or Orch.	1	Elective	2
Elective	2		
	18		15

CURRICULUM IN APPLIED MUSIC

Leading to the Degree of Bachelor of Music in Voice

Course Requirements

Music

	Hr.		Hr.
Voice	32	M. 117 Instrumentation, and M. 118 Orchestration or M. 119 Band Arranging or M. 120 Choral Arranging (2 hr. each)	4
Piano	16	M. 183 Conducting	3
M. 1, 2, 3, 4, Theory (4 hr. each)	16	M. 140 and 141, History of Music (3 hr. each)	6
M. 107 Analysis of Musical Form	3	Glee Club or Chorus	4
M. 109 and 110, Counterpoint (2 hr. ea.)	4	M. 199 Recital	2
M. 280 Survey of Operatic Music	2		—
M. 113 and 114, Composition (2 hr. each)	4		96

Academic

	Hr.		Hr.
Foreign Languages	18	Military or Air Science (Men)	8
Italian (Freshman year) (6 hr.)		Electives	4
French (Sophomore year) (6 hr.)			
German (Junior year) (6 hr.)			—
English	12	Women	38
English 1 and 2 (6 hr.) or Communications 1 and 2 (6 hr.)			—
English 18 or English 21 (Communications) (3 hr.)		Men	44
English 3, 4, 5, or 6 (3 hr.)			
Phys. Ed. (2 hr. Men, 4 hr. Women)	2-4		

Courses By Years

FRESHMAN

First Sem.	Hr.	*Second Sem.*	Hr.
Voice	4	Voice	4
Piano	2	Piano	2
M. 1	4	M. 2	4
Glee or Cho.	0	Glee or Cho.	0
Phys. Ed.	1	English 2	3
English 1	3	Phys. Ed.	1
Italian	3	Italian	3
(W)	17	(W)	17
Mil. or Air Sci. 1 (men)	2	Mil. or Air Sci. 2 (men)	2
(M)	19	(M)	19

SOPHOMORE

First Sem.	Hr.	*Second Sem.*	Hr.
Voice	4	Voice	4
Piano	2	Piano	2
M. 3	4	M. 4	4
M. 140	3	M. 141	3
Glee or Cho.	0	Glee or Cho.	0
Phys. Ed. (W)	1	Phys. Ed. (W)	1
French	3	French	3
(W)	17	(W)	17
Mil. or Air Sci. 3 (men)	2	Mil. or Air Sci. 4 (men)	2
(M)	18	(M)	18

JUNIOR

First Sem.	Hr.	*Second Sem.*	Hr.
Voice	4	Voice	4
Piano	2	Piano	2
M. 107	3	M. 110	2
M. 109	2	M. 280	2
English 18 or 21 (Comm.)	3	English 3, 4, 5, or 6	3
Glee or Cho.	1	Glee or Cho.	1
German	3	German	3
	18		17

SENIOR

First Sem.	Hr.	*Second Sem.*	Hr.
Voice	4	Voice	4
Piano	2	Piano	2
M. 113	2	M. 118 or 119 or 120	2
M. 117	2	M. 114	2
M. 183	3	M. 199	2
Glee or Cho.	1	Glee or Cho.	1
Elective	2	Elective	2
	16		15

CURRICULUM IN THEORY AND COMPOSITION

*Leading to the Degree of Bachelor of Music in Theory and Composition**

Course Requirements

Music

	Hr.		*Hr.*
Applied Music	36	M. 183 Conducting	3
Instrument Classes	4	M. 186 and 187, Composition (2 hr. ea.)	4
M. 1, 2, 3, 4, Theory (4 hr. each)	16	M. 140 and 141, History of Music (3 hr. each)	6
M. 107 Analysis of Musical Form	3	M. 280 Survey of Operatic Music	2
M. 109 and 110, Counterpoint (2 hr. ea.)	4	M. 281 Survey of Symphonic Music	2
M. 113 and 114, Composition (2 hr. ea.)	4	M. 282 Studies in Contemporary Music	2
M. 115 and 116, Composition (2 hr. ea.)	4	M. 198 Original Major Work in Composition	2
M. 117 Instrumentation, M. 118 Orchestration, and M. 119 Band Arranging (2 hr. each)	6	Glee Club, Chorus, Band, or Orchestra	4
			102

Academic

	Hr.		*Hr.*
Foreign Language (French, German or Italian)	12	Phys. Ed. (2 hr. Men, 4 hr. Women)	2-4
English	12	Military or Air Science (Men)	8
English 1 and 2 (6 hr.) or Communications 1 and 2 (6 hr.)		Electives	4
English 18 or English 21 (Communications) (3 hr.)		Women	32
English 3, 4, 5, or 6 (3 hr.)		Men	38

Courses By Years

FRESHMAN

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Applied	6	Applied	6
M. 1	4	M. 2	4
Glee, Cho., Band, or Orch.	0	Glee, Cho., Band, or Orch.	0
English 1	3	English 2	3
Fr., Ger., or Ital.	3	Fr., Ger., or Ital.	3
Phys. Ed.	1	Phys. Ed.	1
(W)	17	(W)	17
Mil. or Air Sci. 1 (men)	2	Mil. or Air Sci. 2 (men)	2
(M)	19	(M)	19

SOPHOMORE

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Applied	4	Applied	4
M. 3	4	M. 4	4
M. 113	2	M. 114	2
M. 140	3	M. 141	3
Sequence A: English 18 or 21 *or* Sequence B: Fr. Ger., or Ital.	3	Sequence A: English 3, 4, 5, or 6 *or* Sequence B: Fr., Ger., or Ital.	3
Phys. Educ. (W)	1	Phys. Educ. (W)	1
(W)	17	(W)	17
Mil. or Air Sci. 3 (men)	2	Mil. or Air Sci. 4 (men)	2
(M)	18	(M)	18

*In order to be approved for candidacy in this field at the beginning of the Junior year, a student working toward the degree of Bachelor of Music in Theory and Composition must have maintained at least an average of "B" in all Theory courses required in the Freshman and Sophomore years, and he must have attained and demonstrated the required proficiency in Piano.

JUNIOR				SENIOR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Applied	4	Applied	4	Applied	4	Applied	4
M. 107	3	M. 110	2	M. 183	3	M. 119	2
M. 109	2	M. 116	2	M. 186	2	M. 187	2
M. 115	2	M. 118	2	M. 281	2	M. 198	2
M. 117	2	M. 280	2	Instr. Class (2)	2	M. 282	2
Glee, Cho., Band, or Orch.	1	Glee, Cho., Band, or Orch.	1	Glee, Cho., Band, or Orch.	1	Glee, Cho., Band, or Orch.	1
Sequence A:		Sequence A:		Elective	2	Instr. Class (2)	2
Fr., Ger., or Ital.		Fr., Ger., or Ital.				Elective	2
or		*or*					
Sequence B:		Sequence B:					
English 18 or 21	3	English 3, 4, 5, or 6	3				
	17		16		16		17

CURRICULUM IN MUSIC EDUCATION

Leading to the Degree of Bachelor of Music Education

Course Requirements

Music

	Hr.		Hr.
Applied Music	33	M. 183 Conducting	3
Major (Minimum) 16 hr.		M. 185 Music Education	3
Minor (Minimum) 6 hr.		M. 181 Instrumental Techniques or M. 182 Choral Techniques	2
Instrument classes 5 hr.		M. 140 and 141, History of Music (3 hr. each)	6
Electives* 6 hr.		Glee Club, Chorus, Band, or Orchestra	4
M. 1, 2, 3, 4, Theory (4 hr. each)	16		74
M. 107 Analysis of Musical Form	3		
M. 117 Instrumentation, and M. 118 Orchestration, or M. 119 Band Arranging or M. 120 Choral Arranging	4		

Academic

	Hr.		Hr.
English	12	Science	8
English 1 and 2 (6 hr.) or Communications 1 and 2 (6 hr.)		General Biology 1 and 2 (4 hr. each) or Physical Science 1 and 2 (4 hr. ea.)	
English 18 or English 21 (Communications) (3 hr.)		Art 30	2
English 3, 4, 5, or 6 (3 hr.)		Phys. Ed. (2 hr. Men, 4 hr. Women)	2-4
Social Science	14-16	Health Education 101	2
History 1 and 2 (3 hr. each) or Humanities 1 and 2 (4 hr. each)		Military or Air Science (Men)	8
Social Science 1 and 2 (4 hr. each)		Women	42-44
		Men	48-50

Education

	Hr.		Hr.
Ed. 105 Educational Psychology	3	Ed. 120 Principles of Teaching in the Secondary Schools	2
Ed. 106 Educational Psychology	3	Ed. 124 Student Teaching	4
Ed. 114 Educational Psychology—Adolescent Adjustment	3	Ed. 169 Materials and Methods of High School Teaching (Music)	2
Ed. 115 Student Teaching in the Elementary School	2	Total	21
Ed. 130 Materials and Methods in Elementary-school Music	2		

*At least one semester of voice is required.

Courses By Years

FRESHMAN

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Applied, major	2	Applied, major	2
Applied, other	2	Applied, other	2
M. 1	4	M. 2	4
Glee, Cho., Band, or Orch.	0	Glee, Cho., Band, or Orch.	0
English 1	3	English 2	3
Hist. 1 or Humanities 1	3-4	Hist. 2 or Humanities 2	3-4
Phys. Ed.	1	Phys. Ed.	1
(W)	15-16	(W)	15-16
Mil. or Air Sci. 1		Mil. or Air Sci. 2	
(M)	2	(M)	2
(M)	17-18	(M)	17-18

SOPHOMORE

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Applied, major	2	Applied, major	2
Applied, other	2	Applied, other	2
M. 3	4	M. 4	4
M. 140	3	M. 141	3
Glee, Cho., Band, or Orch.	0	Glee, Cho., Band, or Orch.	0
Soc. Sci. 1	4	Soc. Sci. 2	4
Ed. 105	3	Ed. 106	3
Phys. Ed. (W)	1	Phys. Ed. (W)	1
(W)	19	(W)	19
Mil. or Air Sci. 3		Mil. or Air Sci. 4	
(M)	2	(M)	2
(M)	20	(M)	20

JUNIOR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Applied, major	2	Applied, major	2
Applied, other	3	Applied, other	1
M. 117	2	M. 118 or 119 or 120	2
M. 183	3	M. 185	3
English 18 or 21	3	English 3, 4, 5, or 6	3
Gen. Biology 1 or Phys. Sci. 1	4	Gen. Biol. 2 or Phys. Sci. 2	4
Glee, Cho., Band, or Orch.	1	Glee, Cho., Band, or Orch.	1
		Ed. 114	3
	18		19

SENIOR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Applied, major	2	Applied, major	2
Applied, other	2	Applied, other	2
M. 181 or 182	2	Art 30	2
M. 107	3	Ed. 120	2
Ed. 115	2	Ed. 169	2
Ed. 130	2	Ed. 124	4
Health Ed. 101	2	Glee, Cho., Band, or Orch.	1
Glee, Cho., Band, or Orch.	1		
	16		15

The student is required to take work in his major field of Applied Music each semester he is enrolled in the School of Music. Work in the minor field and in the approved electives will be pursued under the guidance of the student's adviser.

Credit in the performing organizations such as the Bands, the Orchestra, the Choir, the Choral Union, and the Glee Clubs is given only in the junior and senior years. Instrumental majors in Music Education are required to be in a major choral group for at least one year.

Certification

Students successfully completing the above course of study will qualify for the Professional Certificate, Grades 1-12. This certificate qualifies one to teach music on both elementary and secondary levels.

Students wishing to qualify for a second teaching field at secondary level will satisfy the requirements for the Professional Certificate, Grades 7-12, by completing the requirements of the second teaching field and the following courses in Education: 105, 106, 114, 120, 124, 169, and a 3-hour elective in Secondary Education. (See W.V.U. Teacher Training Bulletin for requirements in teaching fields).

Students desiring to qualify for both types of Professional Certificates will usually need to take additional courses during the Summer Session or in extra semesters.

THREE-YEAR ACCELERATED MUSIC EDUCATION PROGRAM

The following program permits students to complete the Music Education Curriculum in three consecutive full years. Students desiring to enroll in the Three-Year Accelerated Program must be recommended by the Adviser and approved by the Chairman of Music Education and the Dean of the School prior to the student's registration for the first summer term following the completion of this second semester.

Freshmen students entering the University in June who plan to enroll in the Three-Year Accelerated Program will have the advantage of carrying less hours during some semesters, and under certain circumstances, be able to complete the curriculum before the end of the fourth summer.

Credit for Music 100 through Music 105, the performing organizations, is available to students enrolled in the Three-Year Accelerated Program upon completion, with a 2.0 grade-point average, of all courses required before the third semester.

Inability to follow the prescribed program will automatically terminate the possibility of the student completing the curriculum in the proposed three years.

THREE-YEAR ACCELERATED MUSIC EDUCATION CURRICULUM

COURSES BY YEARS

FIRST YEAR

First Semester	*Hr.*
Applied, major	2
Applied, other	3
Music 1	4
Cho., Band, Orch.	0
English 1	3
Hist. 1 or Humanities 1	3-4
Phys. Ed.	1
(W)	16-17
Mil. or Air Sci. 1	2
(M)	18-19

Second Semester	*Hr.*
Applied, major	2
Applied, other	3
Music 2	4
Cho., Band, Orch.	0
English 2	3
Hist. 2 or Humanities 2	3-4
Phys. Ed.	1
(W)	16-17
Mil. or Air Sci. 2	2
(M)	18-19

First Summer Term	*Hr.*
Applied, major	2
Applied, other, M. 194	1
Education 105	3
	6
Second Summer Term	*Hr.*
Music 140	3
Applied, other, M. 195	1
Education 106	3
	7

SECOND YEAR

First Semester	*Hr.*
Applied, major	2
Applied, other	2
Music 3	4
Music 183	3
Cho., Band, Orch.	1
English 18 or 21	3
Soc. Sci. 1	4
Phys. Ed. (W)	1
(W)	20
Mil. or Air Sci. 3	2
(M)	21*

Second Semester	*Hr.*
Applied, major	2
Applied, other	2
Music 4	4
Music 185	3
Cho., Band, Orch.	1
English 3 or 4 or 5 or 6	3
Soc. Sci. 2	4
Phys. Ed. (W)	1
(W)	20
Mil. or Air Sci. 4	2
(M)	21*

First Summer Term	*Hr.*
Music 107	3
Music 117	2
Art 30	2
	7
Second Summer Term	*Hr.*
Music 141	3
Educ. 114	3
	6

THIRD YEAR

First Semester	*Hr.*
Applied, major	4
Applied, other	2
Cho., Band, Orch.	1
Biol. 1 or Phys. Sci. 1	4
Educ. 115	2
Educ. 130	2
	15

Second Semester	*Hr.*
Applied, major	2
Applied, other	1
Cho., Band, Orch.	1
Biol. 2 or Phys. Sci. 2	4
Educ. 124	4
Educ. 120	2
Educ. 169	2
	16

First Summer Term	*Hr.*
Music 118 (Instr. majors)	2
Applied, major (choral majors)	2
M. 118 or M. 119 (Instr. Majors)	2
H.Ed. 101 (choral maj.)	2
	4

*Men must apply to scholarship committee for permission to take 21 hours.

Second Summer Term	*Hr.*
M. 182 (choral majors)	2
Applied, major (instr. majors)	2
M. 120 (choral majors)	2
H.Ed. 101 (instr. majors)	2
	4

OPTIONAL FIVE-YEAR PROGRAM

An optional five-year program has been arranged for students who desire to meet the requirements of majors in both Applied Music and Music Education. Admission to this program is by consent of the faculty. As outlined below, the curriculum leads to the Professional Certificate, Grades 1-12.

CURRICULUM IN MUSIC EDUCATION AND APPLIED MUSIC

Leading to the Degree of Bachelor of Music in Music Education and Applied Music (Instrumental)

Course Requirement

Music

	Hr.		*Hr.*
Applied Major	32	M. 183 Conducting	3
Applied Minor	12	M. 140-141 History of Music	6
Applied Elective	2	M. 280 Survey of Operatic Music,	
Instrument Classes	5	M. 280 Survey of Symphonic Music,	
M. 1, 2, 3, 4 Theory (4 hr. ea.)	16	or M. 282 Studies in Contemporary Music	2
M. 107 Analysis of Musical Form	3	M. 185 Public School Music	3
M. 109-110 Counterpoint	4	M. 181 Instrumental Techniques, or	
M. 113-114 Composition	4	M. 182 Choral Techniques	2
M. 117 Instrumentation	2	Glee, Chor., Band, Orch.	4
M. 118 Orchestration, or M. 119 Band Arranging	2	M. 199 Recital	2
			104
Electives (Music or Academic)			9

Academic

	Hr.		*Hr.*
English 1 and 2 Communication	6	Biology 1 and 2 or	
English 18 or 21 Communication	3	Physical Science 1 and 2	8
English 3, 4, 5, 6, 126, 164	3	Art 30	2
Italian, French, or German	6	Phys. Educ. (2 hr. men, 4 hr. women)	2-4
History 1 and 2 (6 hr.) or Humanities 1 and 2 (8 hr.)	6-8	Health Ed. 101	2
Social Sci. 1 and 2	8	Mil. or Air Sci. (men)	8
		Women	48-50
		Men	54-56

Education

	Hr.		*Hr.*
Ed. 105 Educ. Psychology	3	Ed. 130 Materials and Methods-Sec. Sch.	2
Ed. 106 Educ. Psychology	3	Ed. 120 Principles of Teaching-Sec. Sch.	2
Ed. 114 Adol. Adjustment	3	Ed. 124 Student Teaching	4
Ed. 115 Student Teaching-Elem. Sch.	2	Ed. 169 Materials and Methods of High School Teaching (Music)	2
			21

Women 182 - 184 hrs.
Men - 190 hrs.

Courses by Years

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Applied	4	Applied	4
M. 1	4	M. 2	4
Glee, Cho., Band or Orch.	0	Glee, Cho., Band or Orch.	0
English 1	3	English 2	3
Fr., Ger., or Ital.	3	Fr., Ger., or Ital.	3
Phys. Ed.	1	Phys. Ed.	1
Instr. Class	1	Art 30	2
		Instr. Class	1
(W)	16	(W)	18
Mil. or Air Sci. 1 (M)	2	Mil. or Air Sci. 2 (M)	2
(M)	18	(M)	20

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Applied	4	Applied	4
M. 3	4	M. 4	4
M. 140	3	M. 141	3
Glee, Cho., Band or Orch.	0	Glee, Cho., Band or Orch.	0
Hist. 1 or Humanities 1	3-4	Hist. 2 or Humanities 2	3-4
Ed. 105	3	Ed. 106	3
Instr. Class	1	Instr. Class	1
Phys. Ed. (W)	1	Phys. Ed. (W)	1
(W)	19-20	(W)	19-20
Mil. or Air Sci. 3 (M)	2	Mil. or Air Sci. 4 (M)	2
(M)	20-21	(M)	20-21

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Applied, major	4	Applied, major	4
Applied, minor	2	Applied, minor	2
M. 183	3	M. 185	3
English 18 or 21	3	Ed. 114	3
Biol. 1 or Phys. Sci. 1	4	Biol. 2 or Phys. Sci. 2	4
Soc. Sci. 1	4	Soc. Sci. 2	4
Glee, Cho., Band or Orch.	0	Glee, Cho., Band or Orch.	0
	20		20

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Applied, major	4	Applied, major	4
M. 181 or 182	2	M. 118 or 119	2
M. 117	2	M. 110	2
M. 107	3	Ed. 120	2
M. 109	2	Educ. 169	2
Ed. 115	2	Ed. 124	4
Ed. 130	2	Glee, Cho., Band or Orch.	1
Glee, Cho., Band or Orch.	1		
	18		17

FIFTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Applied, major	4	Applied, major	4
Applied, elective	2	M. 199	2
M. 280, 281, or 282	2	M. 114	2
M. 113	2	Glee, Cho., Band or Orch.	1
Instr. Class	1	Health Ed. 101	2
English 3, 4, 5, or 6	3	Electives	6
Glee, Cho., Band or Orch.	1	Instr. Class	1
Elective	3		
	18		18

CURRICULUM IN MUSIC EDUCATION AND VOICE

Leading to the Degree of Bachelor of Music Education and Voice

Music

	Hr.		Hr.
M. 150 Voice	32	M. 182 Choral Techniques	2
M. 150 Piano	12	M. 183 Conducting	3
Applied Elective	2	M. 185 Public School Music	3
Instr. Classes	3	M. 140-141 History of Music	6
M. 1, 2, 3, 4, Theory (4 hrs. each)	16	M. 280 Survey of Operatic Music, M. 281, Survey of Symphonic Music, or M. 283, Studies in Contemporary Music	2
M. 107 Analysis of Musical Form	3		
M. 109-110 Counterpoint	4		
M. 113-114 Composition	4		
M. 117 Instrumentation	2	Glee, Cho., Band, Orch	4
M. 118 Orchestration, or M. 119, Band Arranging, or 120 Choral Arranging	2	M. 199 Recital	2
			102

Academic

	Hr.		Hr.
English 1 and 2 Communication	6	Biology 1 and 2 or Phys. Sci. 1 and 2	8
English 18 or 21 Communication	3	Art 30	2
English 3, 4, 5, 6, 163, 164	3	Health Ed. 101	2
Italian	6	Phys. Educ. (2 hrs. men - 4 hrs women)	2-4
French	6	Mil or Air Sci. (men)	8
German	6		
Hist. 1 and 2 (6 hrs.) or Humanities 1 and 2 (8 hrs.)	6-8	Women	60-62
Social Science 1 and 2	8	Men	66-68

Education

	Hr.		Hr.
Ed. 105 Educ. Psychology	3	Ed. 120 Principles of Teaching-Sec. Sch.	2
Ed. 106 Educ. Psychology	3	Ed. 124 Student Teaching	4
Ed. 114 Adol. Adjustment	3	Ed. 169 Materials and Methods of High School Teaching (Music)	2
Ed. 115 Student Teaching-Elem. Sch.	2		
Ed. 130 Materials and Methods-Sec. Sch.	2		21

Courses by Year

FIRST YEAR

First Sem.	Hr.	*Second Sem.*	Hr.
M. 150, Voice	2	M. 150, Voice	2
M. 151, Piano	2	M. 150, Piano	2
M. 1	4	M. 2	4
Instr. Class	1	Instr. Class	1
English 1	3	English 2	3
Italian 1	3	Italian 2	3
Phys. Ed.	1	Phys. Ed.	1
Glee, Cho., Band or Orch.	0	Glee, Cho., Band or Orch.	0
		Art 30	2
(W)	16	(W)	18
Mil. or Air Sci. 1 (M)	2	Mil. or Air Sci. 2 (M)	2
(M)	18	(M)	20

SECOND YEAR

First Sem.	Hr.	*Second Sem.*	Hr.
M. 150, Voice	2	M. 150, Voice	2
M. 150, Piano	2	M. 150, Piano	2
M. 3	4	M. 4	4
M. 140	3	M. 141	3
French 1	3	French 2	3
Hist. 1 or Humanities 1	3-4	Hist. 2 or Humanities 2	3-4
Glee, Cho., Band or Orch.	0	Glee, Cho., Band or Orch.	0
Phys. Ed. (W)	1	Phys. Ed. (W)	1
(W)	18-19	(W)	18-19
Mil. or Air Sci. 3 (M)	2	Mil. or Air Sci. 4 (M)	2
(M)	19-20	(M)	19-20

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
M. 150, Voice	4	M. 150, Voice	4
M. 150, Piano	2	M. 150, Piano	2
M. 183	3	M. 185	3
Instr. Class	1	German 2	3
German 1	3	Ed. 105	3
Soc. Sci. 1	4	Soc. Sci. 2	4
Glee, Cho., Band or Orch.	0	Glee, Cho., Band or Orch.	0
English 18 or 21	3		
	20		19

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
M. 105, Voice	4	M. 150, Voice	4
M. 107	3	M. 110	2
M. 109	2	M. 280	2
M. 182	2	Biol. 2 or Phys, Sci. 2	4
Biol. 1 or Phys. Sci. 1	4	Ed. 114	3
Ed. 106	3	Ed. 115	2
Glee, Cho., Band or Orch.	1	Ed. 130	2
		Glee, Cho., Band or Orch.	1
	19		20

FIFTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
M. 150, Voice	4	M. 150, Voice	4
M. 113	2	M. 199	2
M. 117	2	M. 114	2
Ed. 120	2	M. 118 or 119 or 120	2
Ed. 124	4	Applied Elective	2
Ed. 169	2	English 3, 4, 5, or 6	3
Glee, Cho., Band or Orch.	1	Glee, Cho., Band or Orch.	1
		Health Ed. 101	2
	17		18

COURSES OF INSTRUCTION

0. Theory. 1. 0 hr. A course designed to prepare students for M. 1, Theory. Staff

1. Theory. I, II. 4 hr. Thorough training in the melodic, harmonic and rhythmic elements of music. Triads, intervals, keys, scales, cadences, notation, rhythmic reading, sight singing, melodic and harmonic dictation. Keyboard harmony stressed. Staff

2. Theory. I, II. 4 hr. PR: Music 1. Continuation of the melodic and harmonic dictation. Seventh chords, modal scales, key relationships, modulation, transposition by clef, and the study of four-part writing. Special drills in keyboard harmony. Staff

3. Theory. I, II. 4 hr. PR: Music 1, 2. Study of the harmonic technique of the 18th and 19th centuries. Melodic and harmonic dictation, four-part writing, modulation, altered chords, chorale harmonization, keyboard harmony. Staff

4. Theory. II. 4 hr. PR: Music 1, 2, 3. Continuation of Theory 3 drills. Dictation of chorals. Contrapuntal technique of the 18th century. Keyboard harmony. Staff

5. Remedial Theory. I, II. No Credit. A course for graduate students who are deficient in undergraduate theory requirements. Staff

10. Music in Human Relations. I, II. 2 hr. A course designed to supply a foundational, cultural, musical background to a clearer understanding of music as a daily living experience. Lectures, demonstrations, concerts, recordings. Not open to Music majors. Staff

11. Music as an Art and Science. I, II. 2 hr. PR: Music 10 or its equivalent. Music in the elementary school curriculum. Music methods and materials for teachers in the first three grades. Two recitation periods and one laboratory period per week. Not open to music majors. Miss Scott

12. Music Materials and Procedures. I, II. 2 hr. PR: Music 11 or its equiv. Continuation of Music 11. Methods and materials for teachers in upper grades. Criteria for utilization of notational elements. Two recitation periods and one laboratory period per week. Not open to music majors. Miss Scott

77. Enjoyment of Music. I. 1 hr. A non-technical course dealing with the elements of music—rhythm, timbre, form, harmony, melody. Not open to music majors. Mr. Wood

78. Enjoyment of Music. II. 1 hr. Continuation of Music 77. Not open to music majors. Mr. Wood

107. Analysis of Musical Form. I, II. 3 hr. PR: Music 4. A detailed study of the structure of music. Mr. Schafer

109. Introductory Counterpoint. I. 2 hr. A course in 16th century polyphony. A brief survey of the history of counterpoint precedes a study of the melodic and contrapuntal principles of style in 16th century choral music. Students compose original melodies, and two- and three-part compositions. Mr. Lorince

110. Counterpoint. II. 2 hr. PR: Music 109. Continuation of Music 109. Original composition for three, four, and five voices in the 16th century style. Mr. Lorince

113. Introductory Composition. I. 2 hr. PR: Music 4. Original creative writing in the smaller forms. Mr. Haugland

114. Composition. II. 2 hr. PR: Music 113. Continuation of Music 113. Mr. Haugland

115. Composition. I. 2 hr. PR: Music 114. Mr. Haugland

116. Composition. II. 2 hr. PR: Music 115. Mr. Haugland

117. Instrumentation. I. 2 hr. PR: Music 4. Study of the characteristics of band and orchestral instruments and their use in scoring. Mr. Hilts

118. Orchestration. II. 2 hr. PR: Music 117. Problems in scoring for orchestral ensembles. Mr. Hilts

119. Band Arranging. II. 2 hr. PR: Music 117. Problems in scoring for concert and marching bands. Mr. Intravaia

120. Choral Arranging. II. 2 hr. PR: Music 1, 2. A study of the characteristics and problems in scoring for choral combinations. Mr. Haugland

140. History of Music. I. 3 hr. Survey of music history from the pre-Christian era to the end of the barogue period. Mr. Schafer

141. History of Music. II. 3 hr. Continuation of M. 140, including the classic, romantic, and modern periods. Mr. Schafer

150. Applied Music. I, II. 1-4 hr. Open to qualified students in any field in Applied Music. Course number may be repeated as many times as necessary or desirable. Credit given at the following rates:

1. For music majors, two hours for each 30-minute weekly lesson;
2. For other students, a maximum of one 30-minute lesson per week at one hour of credit. Staff

153. Accompanying. I. 1 hr. This course furnishes opportunity to acquire the art of accompanying vocal and instrumental solos. Course number may be repeated as many times as necessary or desirable. Staff

155. Chamber Music. I. 1 hr. The study of sonatas, trios, and string quartets. Open to pianists and string and wind instrument players. Course number may be repeated as many times as necessary or desirable. Staff

181. Instrumental Techniques. I. 2 hr. The organization and administration of an instrumental program in the public schools. Mr. Intravaia

182. Choral Techniques. I. 2 hr. The organization and administration of choral groups in high school. Mr. McGregor

183. Conducting. I. 3 hr. A basic course in conducting techniques, both choral and instrumental. Mr. Brown

185. Music Education. II. 3 hr. Essentials of music education from the elementary grades through senior high school. Miss Scott

186. Composition. I. 2 hr. PR: Music 116. Staff

187. Composition. II. 2 hr. PR: Music 186. Staff

198. Original Major Work in Composition. I, II. 2 hr. Required for degree in Theory and Composition. Staff

199. Graduation Recital. I, II. 2 hr. Required for degree in Applied Music. Staff

200. Band, Orchestra, and Chorus Clinic. 2 hr. Special problems of organization and development, including literature, rehearsal technique, drilling, tuning, and motivation of student practice. Lecture and discussion groups. This clinic will function with laboratory groups of high-school students. Staff

201. Music in the Elementary School. I, II. 2 hr. PR: Music 10, 11, 12, or consent. Development of skills, procedures, techniques, and materials used by the general classroom teacher of music in grades 1-8. Not open to music majors. Staff

210. Opera Techniques. I, II. 2 hr. PR: Consent. Course number may be repeated as many times as necessary or desirable. Mrs. McEnney

231. Principles of Vocal Production. I. 2 hr. Class lessons in voice stressing the fundamentals of voice production and pedagogy. Staff

232. Church Music. I. 3 hr. PR: Music 140-141 or equiv. A study of hymnology, anthems, cantatas, and oratorios appropriate to the liturgical year. Mr. English

233. Liturgies. II. 3 hr. PR: Music 232. A historical study of Jewish, Roman Catholic, and Protestant liturgies. Mr. English

280. Survey of Operatic Music. II. 2 hr. PR: Music 107. Mr. Schafer

281. Survey of Symphonic Music. I. 2 hr. PR: Music 107. Mr. Schafer

282. Studies in Contemporary Music. II. 2 hr. Mr. Schafer

283. Medieval and Renaissance Music. I. 2 hr. PR: Music 140-141 or equiv. A detailed study of the music and musical practice from the beginning of the Christian era to 1600. Mr. Schafer

BEGINNING APPLIED MUSIC CLASSES[2]

79. Oboe Class. I, II. 1 hr. Staff

80. Bassoon Class. I, II. 1 hr. Staff

89. Cello Class. I, II. 1 hr. Staff

90. String Bass Class. I, II. 1 hr. Staff

188. French Horn. I, II. 1 hr. Staff

189. Flute. I, II. 1 hr. Staff

191. Trombone. I, II. 1 hr. Staff

192. Trumpet. I, II. 1 hr. Staff

193. Clarinet. I, II. 1 hr. Staff

[2]Students may use their own instruments, or instruments may be rented for a fee of $2.50 per semester.

194. Violin and Viola. I. 1 hr. Staff

195. Violin and Viola. II. 1 hr. Staff

197. Percussion. I, II. 1 hr. Staff

ORGANIZATIONS

100. Band. 0 to 1 hr. Mr. Intravaia

101. Men's Glee Club. 0 to 1 hr. Mr. McGregor

102. University Choral Union. 0 or 1 hr. Mr. McGregor

103. University-Community Symphony Orchestra. 0 or 1 hr. Mr. Wood

104. Women's Glee Club. 0 or 1 hr. Mr. Brown

105. University Choir. 0 to 1 hr. Mr. McGregor

THE GRADUATE DEGREE

Candidates for the degree of Master of Music are required to have completed the prescribed four-year curriculum of undergraduate study in Music at West Virginia University or its equivalent at another institution of recognized standing; pass qualifying examinations in Theory, Music History, Music Education (if applicable), and auditions in Applied Music. These examinations are given beginning two days prior to the dates of general University registration as listed in the University Calendar. All prospective graduate students must have taken these examinations before being allowed to register. Students will be required to make up any undergraduate deficiencies indicated by the results of these examinations.

Candidates must establish an over-all grade-point average of 3 (B) within a maximum of thirty-six hours.

Candidates for the Master of Music degree may major in one of six fields: Music Education, Applied Music, Theory, Composition, Church Music, and History of Music.

Graduate students majoring in Music Education will be allowed one of the following options, to be determined in consultation with the adviser:

1. Take thirty hours in approved courses, including four hours for thesis.

2. Take thirty hours in approved courses, and give a representative public recital in lieu of writing a thesis. Candidates selecting this option must be recommended by the proper applied music instructor and approved by the faculty. The recital carries two hours credit.

3. Take thirty-six hours in approved courses without thesis or recital. Six of the thirty-six hours may be in approved fields other than music.

A representative public recital is required of candidates majoring in Applied Music. Composition majors must submit as a thesis a composition in a large form.

All graduate students are required to participate at least two clock hours per week in a major performing group.

A general comprehensive oral examination must be passed by all candidates for the Master of Music degree. Candidates may repeat this examination after a three month period.

Following are the six curricula:

Music Education (with thesis)	*Hr.*
Applied Music	8
M. 310—Conducting	3
M. 340—Choral Techniques, or	
M. 342—Instrumental Techniques	3
M. 344—Music Education	3
M. 346—Seminar in Music Education	3
M. 399—Thesis	4
Electives, Music	6
	30

Applied Music	*Hr.*
Applied Music (At least 8 hours in a major field)	12
M. 310—Conducting	3
M. 320—Music Literature	2
M. 360—Composition, or	
M. 370—Orchestration	3
M. 398—Recital	4
Electives	6
	30

Composition	*Hr.*
Applied Music	4
M. 360—Composition	3
M. 361—Composition	3
M. 365—Counterpoint	2
M. 366—Counterpoint	2
M. 370—Orchestration	3
M. 371—Orchestration *or* M. 372, Band Arranging	3
M. 375—Pedagogy of Theory	3
M. 376—Pedagogy of Theory	3
M. 399—Thesis	4
	30

History of Music	*Hr.*
M. 300—Applied Music	4
M. 399—Thesis, *or* M. 396, 2 lecture recitals	4
M. 330—Introduction to Research	3
M. 331—Seminar in Musicology	3
M. 367—Style Survey	2
M. 368—Style Survey	2
Six hours of music literature or histroical survey, from the following:	
M. 280—Survey of Operatic Music	2
M. 281—Survey of Symphonic Music	2
M. 282—Studies in Contemporary Music	2
M. 283—Medieval and Renaissance Music	2
M. 320—Music Literature (Vocal, Instrumental)	2
Electives	6
	30

Church Music (Voice Emphasis)	*Hr.*
M. 300—Voice	8
M. 300—Piano or Organ	2
M. 232—Church Music	3
M. 233—Liturgies	3
M. 310—Conducting	3
M. 340—Choral Techniques	3
M. 334—Choir Seminar	2
M. 335—Choir Seminar	2
M. 398—Recital, *or* M. 399, Thesis	4
	30

Church Music (Organ Empahsis)	*Hr.*
M. 300—Organ	8
M. 231—Principles of Vocal Production	2
M. 323—Church Music	3
M. 233—Liturgies	3
M. 310—Conducting	3
M. 340—Choral Techniques	3
M. 334—Choir Seminar	2
M. 335—Choir Seminar	2
M. 398—Recital *or* M. 399, Thesis	4
	30

Theory	*Hr.*
M. 300—Applied Music	4
M. 365—Counterpoint	2
M. 366—Counterpoint	2
M. 370—Orchestration	3
M. 371—Orchestration *or* M. 372, Band Arranging	3
M. 375—Pedagogy of Theory	3
M. 376—Pedagogy of Theory	3
M. 367—Style Survey	2
M. 368—Style Survey	2
M. 369—Theory Research	2
M 399—Thesis	4
	30

Applied Music

300. Applied Music. I, II. 1-4 hr. Open to qualified students in any field in Applied Music. Course number may be repeated as many times as necessary or desirable. Credit given at the following rates:

1. A maximum of one 30-minute lesson per week at one hour of credit for a beginning student;

2 Full credit of two hours for each 30-minute weekly lesson will be given if a student has had the equivalent of three semesters' work in the instrument. This level will be determined by the transcript of the student's undergraduate record, or by audition during the regular auditions held beginning two days prior to the general registration period of the University.

3. Students other than music majors may take a maximum of one 30-minute lesson per week at one hour credit. Staff

Conducting

310. Conducting. I. 3 hr. PR: Music 183 or equiv. A graduate course in instrumental and choral conducting. Major works are prepared and conducted through the use of recordings and the large University music organizations. Mr. Brown

311. Conducting. II. 3 hr. PR: Music 310. Continuation of Music 310. Staff

Literature

280. Survey of Operatic Music. II. 2 hr. PR: Music 107. Mr. Schafer

281. Survey of Symphonic Music. I, II. 2 hr. PR: Music 107. Mr. Schafer

282. Studies in Contemporary Music. I, II. 2 hr. PR: Consent. Staff

283. Medieval and Renaissance Music. I. 2 hr. PR: Music 140-141, or equiv. A detailed study of the music and musical practice from the beginning of the Christian era to 1600. Mr. Schafer

320. Music Literature. I, II. 3 hr. PR: Consent. Survey and critical study of music literature in the major field of Applied Music. Staff

330. Introduction to Research. I. 3 hr. PR: Music 140-141, or equiv. A study of the field of musical research, with emphasis placed on the technic of research in music history. **Mr. Schafer**

331. Seminar in Musicology. II. 3 hr. PR: Music 330. Musical research and investigation. Special fields of study will be selected for each term and individual projects undertaken. Course may be repeated for credit. Mr. Schafer

Church Music

231. Principles of Vocal Production. I. 2 hr. Class lessons in voice stressing the fundamentals of voice production and pedagogy. Staff

232. Church Music. I. 3 hr. PR: Music 140-141 or equiv. A study of hymnology, anthems, cantatas, and oratorios appropriate to the liturgical year. Mr. English

233. Liturgies. II. 3 hr. PR: Music 232. A historical study of Jewish, Catholic, and Protestant liturgies. Mr. English

334. Choir Seminar. I. 2 hr. PR: Music 183. Development of a choir in a church for a period of two semesters, cluminating in a performance of a program of sacred music. Mr. English

335. Choir Seminar. II. 2 hr. PR: Music 334. Continuation of Music 334. Mr. English

Music Education

201. Music in the Elementary School. I, II. 2 hr. PR: Music 10, 11, 12, or consent of instructor. Development of skills, procedures, techniques and materials used by the general classroom teacher of music in grades 1-8. Not open to music majors. Staff

340. Choral Techniques. I. 3 hr. PR: Music 182 or equiv. Study and practice in the development of choral groups. Mr. Brown

342. Instrumental Techniques. II. 3 hr. PR: Music 181 or equiv. Study and practice in the development of instrumental groups. Mr. Intravaia

344. Music Education. I. 3 hr. PR: Music 185 or equiv. Survey and critical study of the total music education curriculum. Miss Scott

345. The Supervision of Music. II. 2 hr. PR: Music 185. Problems in the supervision of music in the elementary grades and in junior high school. Miss Scott

346. Seminar in Music Education. II. 3 hr. PR: Music 344. Discussion and special research problems in the general field of Music Education. Problem report required. Mr. Brown

Opera

210. Opera Techniques. I, II. 2 hr. PR: Consent. Course number may be repeated as many times as necessary or desirable. Mrs. McEnney

Theory and Composition

360. Composition. I, II. 3 hr. PR: Consent. A course primarily for candidates for the graduate degrees in Theory and Composition. Staff

361. Composition. I, II. 3 hr. PR: Music 360. Continuation of Music 360. Staff

362. Composition. I, II. 3 hr. PR: Music 361. Continuation of Music 361. Staff

363. Composition. I, II. 3 hr. PR: Music 362. Continuation of Music 362. Staff

365. Counterpoint. I. 2 hr. PR: Music 110 or equiv. Primarily a graduate course in 16th century counterpoint. A study is also made of the Bach contrapuntal style, and aspects of counterpoint in contemporary styles are examined. Mr. Lorince

366. Counterpoint. II. 2 hr. PR: Music 365. Continuation of Music 365. Mr. Lorince

367. Style Survey. I. 2 hr. PR: Music 140, 141 or equiv. An analytical study of musical styles from early Gregorian chant to the 16th century. Staff

368. Style Survey. II. 2 hr. PR: Music 367. An analytical study of musical styles from the 16th century to the contemporary period. Staff

369. Theory Research. I. 2 hr. PR: Music 110. An analysis and study of special problems in theory. May be repeated for credit. Mr. Haugland

370. Orchestration. I. 3 hr. PR: Music 118 or equiv. Major projects in the orchestration of original or pre-existing works. Staff

371. Orchestration. II. 3 hr. PR: Music 370. Continuation of Music 370. Staff

372. Band Arranging. II. 3 hr. PR: Music 119 or equiv. Major projects in arranging for the concert band. Mr. Intravaia

375. Pedagogy of Theory. I. 3 hr. PR: A strong undergraduate background in theory. An analysis of various approaches to the problems involved in the teaching of theory. Lectures, observation. and practice teaching. Mr. Lorince

376. Pedagogy of Theory. II. 3 hr. PR: Music 375. Continuation of Music 375 Mr. Lorince

Thesis or Recital

397. Recital. 2 hr. For Music Education Majors only. Staff

298. Recital. 4 hr. Staff

399. Thesis. 4 hr. Staff

The School of Pharmacy

GENERAL INFORMATION

The University first offered a course in pharmacy, leading toward a Bachelor of Science Degree in Pharmacy, as a four-year course in 1899. The course was listed in the University *Catalog* for a period of five years, but there is no evidence of any students enrolled or of the employment of a pharmaceutically trained faculty. Announcements of the course were discontinued after publication of the 1903-04 *Catalog*.

In response to the request of the West Virginia State Pharmaceutical Association, a forward-looking group of West Virginia pharmacists who recognized the necessity for more thoroughly educated and better-trained pharmacists, the Board of Regents in 1914 established a Department of Pharmacy in the School of Medicine. The first course offered was a two-year course leading to the degree of Graduate in Pharmacy (Ph.G.)

In 1917, additional courses of three and four years, leading to the degrees of Pharmaceutical Chemist (Ph.C.) and Bachelor of Science in Pharmacy (B.S.Phar.), were established. The course leading to the degree of Graduate in Pharmacy was discontinued in 1924, and the course leading to the degree of Pharmaceutical Chemist was discontinued in 1932. Since 1932, a minimum of four years of study has been required.

A College of Pharmacy was established as a separate division of the University, by order of the Board of Governors, effective July 1, 1936. The name of the division was changed from the College of Pharmacy to the School of Pharmacy on May 15, 1958.

The School of Pharmacy, in conformity with the standards set for all accredited colleges of pharmacy, will offer a minimum five-year program of educational study and training beginning in September, 1959. *The last class to be admitted to the present four-year course will be in September,* 1959.

The School of Pharmacy moved to the Basic Sciences Building of the University Medical Center in the summer of 1958. This building consists of a central core containing lecture rooms, laboratories, and other teaching facilities. Five wings are attached to the five-story core, which measures 225 x 225 feet. The wings extend for 100 feet to the north, east, and west.

The facilities of the School of Pharmacy, for the most part, are located on three floors of the north wing. The wings also house the administrative offices, the Medical Sciences Library, a 500-seat auditorium, and such student facilities as a lounge, locker rooms, book store, snack bar, cafeteria, and post office.

Aims and Purposes

The chief purpose of the School of Pharmacy is to provide a systematic instruction and training in pharmacy, its allied sciences, and such other subjects as are deemed to be essential in the education of a pharmacist, that he may meet the present and future demands of the profession in an able and intelligent manner.

An important part of the pharmacist's training is to give to him a proper conception of his professional responsibilities and thereby enable him to correlate his efforts with those of the medical professions and other public health agencies.

A fundamental purpose of the School is to cooperate with pharmacists of the State to maintain and elevate the standards of the profession.

Opportunities in the Pharmaceutical Profession

The greater percentage of those who graduate in pharmacy are found to follow retail pharmacy as proprietors, managers, or prescription pharmacists. There are openings for those who do not desire to engage in the retail field. Hospitals are equipped with pharmaceutical departments with pharmacists in charge. Manufacturing plants and industrial laboratories employ pharmacists for control and research work involving medicines, foods, cosmetics, biologicals, and similar products.

The federal government employs many pharmacists in capacities requiring training in pharmacy, such as the Narcotic Bureau, the Industrial Alcohol Bureau,

the Public Health Service, the Veteran's Administration, Bureau of Chemistry, and the Food and Drug Administration. Many pharmacists are employed as traveling salesmen for manufacturing and wholesale pharmaceutical concerns. Pharmacists are eligible for commissions in the U. S. Public Health Service and in the Medical Administrative Corps of the U. S. Army and the Navy's Medical Service Corps.

Women in Pharmacy

Women students are admitted to the School of Pharmacy under the same conditions as men. Experience has proved that women possess a peculiar fitness for the study and pursuit of pharmacy. In certain fields, such as hospital pharmacy, women appear to be given preference. The number of women engaged in the profession is constantly increasing, and high-school graduates having an aptitude for scientific subjects would do well to seriously consider pharmacy as their profession.

Accreditation

The School of Pharmacy of West Virginia University is accredited by the American Council of Pharmaceutical Education. The American Council on Pharmaceutical Education is composed of members from the American Pharmaceutical Association, the National Association of Boards of Pharmacy, and the American Association of Colleges of Pharmacy. The Council is the accrediting agency for colleges and schools of pharmacy.

LABORATORIES

Pharmaceutical laboratories. The pharmaceutical laboratories consist of a laboratory for the preparation of pharmaceutical preparations, a pharmaceutical chemistry laboratory, and a prescription training laboratory. These laboratories are equipped with the most modern facilities for teaching in the respective fields. Each student is supplied with a full set of pharmaceutical apparatus and glassware necessary for carrying out the requirements of each laboratory course. Torsion balances of the highest quality are a part of this regular equipment. The prescription laboratory is provided with telephone service to each desk in order to provide as near as possible the actual working conditions in the prescription pharmacy.

Pharmacy administration laboratories. Two laboratories are provided for instruction and demonstration in the area of pharmacy administration. An accounting laboratory has been designed and equipped to present the theory and procedure of pharmacy accounting under practical working conditions. Printing calculators are provided as aids to teaching and student motivation. An audio-visual system has been engineered for film projection and class demonstrations in the techniques of sales promotion. A pharmacy demonstration laboratory, featuring a solid glass front, has been planned for instruction and participation in pharmacy layout and arrangement, and for professional window displays.

Pharmacognosy laboratory. The pharmacognosy facilities consist of a well-equipped laboratory and an especially-constructed green house for the growing of drug plants. There are also plantings in the University Arboretum. The pharmacognosy collection consists of approximately 400 medicinal plant drugs from all parts of the world.

Other laboratories. The laboratories of the departments of Pharmacology, Physiology, and Microbiology of the University Medical Center are available for courses in these areas. Biology, chemistry, and physics laboratories on the main campus are used in courses in these departments of the College of Arts and Sciences.

The University Pharmacy. The University Pharmacy is a practical pharmacy located in the Health Center. It is operated upon a strictly ethical basis where physicians' prescriptions are filled by registered pharmacists for the student body.

The University Pharmacy is equipped with a semi-open prescription department which, according to many authorities, is more desirable than either the fully open or closed prescription department.

Medical Center Library

The Library is located on the second floor of the Administrative wing, with a stack-well extending from the basement up through the center of the Library. With

20,000 square feet of floor space, exclusive of stacks, it will seat 300 students, house 160,000 volumes, and provide for all auxiliary services. On hand are 39,000 volumes, of which more than half are periodicals. In the current periodical room, about 600 foreign and domestic periodicals are on display.

Fourteen soundproofed rooms provide space for small group study. There are also a conference room, history of medicine room, and space for microfilm, photostat, and films.

On hand is all the needed material for basic science courses, with excellent representation in the clinical field, to be expanded as the courses progress. While most of the material is in English, there will be outstanding periodicals and books in the major foreign languages. The History collection is being expanded to include good holdings in the secondary material, as well as outstanding original material. This collection is augmented with the holdings of the University Library and the specialized chemistry library in the Chemistry Building on the main campus.

Associated with each department will be a Seminar Room, which will include a small relevant working library.

Requirements for the Practice of Pharmacy in West Virginia

The West Virginia law provides that a person "in order to be registered as a pharmacist . . . shall be a citizen of the United States, not less than 21 years of age," and "shall present to the board of pharmacy satisfactory evidence that he is a graduate of a recognized school of pharmacy as defined by the board of pharmacy, and in addition thereto he shall have had at least one year of practical experience in a drug store under the instruction and supervision of a registered pharmacist, and shall pass satisfactorily an examination by or under the direction of the board of pharmacy.

"Every applicant for registration as a pharmacist shall present to the board of pharmacy satisfactory evidence that he is a person of good moral character and not addicted to drunkeness or the use of narcotic drugs."

West Virginia law provides that the year of apprenticeship be registered with the West Virginia State Board of Pharmacy. The work of the apprentice must be registered with the Board within ninety days from the beginning of such work in order to be credited toward the required year of experience.

Reciprocity

Graduates of the School of Pharmacy are eligible for examinations to practice pharmacy in any state, but graduates of this School who successfully pass the West Virginia State Board of Pharmacy examination are priviledged to reciprocate with forty-six other states and with the District of Columbia and Puerto Rico, without further examination, provided they possess the experience requirements of these states before taking the examination.

Pharmaceutical Associations

The West Virginia State Pharmaceutical Association. This organization has for its object the improvement of the science and art of pharmacy, the inculcation of the professional spirit, and the restriction of the practice of pharmacy to persons properly qualified by education and experience to practice their art with safety to the public. Additional information may be obtained from William J. Dixon, Secretary-Manager, Oak Hill, West Virginia.

American Association of Colleges of Pharmacy. The School of Pharmacy holds membership in the American Association of Colleges of Pharmacy. The object of the Association is to promote the interests of pharmaceutical education and all institutions holding membership must maintain certain minimum requirements for entrance and graduation. Through the influence of this Association, higher standards of education have been adopted from time to time, and the fact that several states, by law or by board ruling, recognize these standards of the Association is evidence of this influence.

American Pharmaceutical Association. The West Virginia University School of Pharmacy Student Branch of the American Pharmaceutical Association was organized in 1948. Its object is to provide for participation of students in the activities of the American Pharmaceutical Association to the end that their interest in pharmaceutical association work may be stimulated and guided, and to familiarize them with the conditions existing and the problems confronting the profession.

Educational Trips

For a number of years it has been the policy of the School to arrange for an annual trip which permits the students to visit and intimately inspect the manufacturing and research facilities of one of the large pharmaceutical manufacturing concerns. The facilities of the following manufacturers have been included in these arrangements.

Abbott Laboratories, North Chicago, Illinois
Eli Lilly and Company, Indianapolis, Indiana
Lederle Laboratories, Pearl River, New York
Parke, Davis, and Co., Detroit, Michigan
The Upjohn Company, Kalamazoo, Michigan

In order to observe at first hand the service rendered to the retail pharmacy by the wholesale drug concerns, the senior students have, for the past few years, made an annual visit to the facilities of either the Clarksburg Drug Company, Clarksburg, West Virginia, the Kauffman-Lattimer Company, Parkersburg, West Virginia, or the Ohio Valley Drug Company, Wheeling, West Virginia.

Dean's List

In 1952 the School established the Dean's List which is a list of the students honored by special commendation for their scholastic attainments during the semester. A student in order to be eligible for this honor must receive not less than a "B" average in not less than 15 hours for the semester.

The 1957-58 Dean's List

First Semester

Edward S. Andochick, Weirton
Freida H. Burns, Lonaconing, Md.
Larry B. Craycraft, Kanawha
Norma Jean DeMary, Enterprise
Dorval H. Donahoe, East Lynn
John Lee Fullmer, Arthurdale
Jesse S. Griffith, Charleston
H. Roger Hornbrook, New Martinsville
Barbara Ann Hyde, Charleston
James H. Lewis, Chester
Ruby Lynn McWhorter, Lost Creek
David W. Miller, New Martinsville
Donald G. Miller, Eccles
Patricia A. Pitsenberger, Beckley
Donna M. Robertson, Beckley
Linda Jane Stucky, Weirton
Margaret W. Winter, Charleston
Rachel Ann Zinn, Buckhannon

Second Semester

Edward S. Andochick, Weirton
Norma Jean DeMary, Enterprise
John Lee Fullmer, Arthurdale
Mary Carper Gerwig, Sutton
K. Roger Hornbrook, New Martinsville
Barbara Ann Hyde, Charleston
James H. Lewis, Chester
Donald G. Miller, Eccles
Donna M. Robertson, Beckley
Okey H. Sanford, Jr., Rainelle
Marvin L. Simons, Richwood
Linda Jane Stucky, Weirton
Margaret W. Winter, Charleston
Rachel A. Zinn, Buckhannon

Service to Pharmacists of West Virginia

The School of Pharmacy desires to render every possible service to the pharmacists of the State. An invitation is extended to write or visit the School in regard to problems of a pharmaceutical nature.

REQUIREMENTS FOR THE DEGREE

The degree of Bachelor of Science in Pharmacy (B.S.Pharm.) is conferred upon any student who complies with the general regulations of the University concerning degrees, satisfies all entrance and School requirements, and completes the curriculum of the School of Pharmacy.

To be eligible for graduation, a student must have an average of "C" or an average of two grade-points on all work presented for graduation (except "W"" and "WP").

Each undergraduate who begins his college work after June 1, 1952, must pass a proficiency examination in English after the beginning of his junior year in order to qualify for graduation. He shall take the examination during the first semester of

his junior year, and if not declared proficient, shall repeat the examination as many times as necessary. Students of foreign citizenship whose native language is other than English are exempted from this requirement.

Each candidate for graduation from the School of Pharmacy shall be required to make at least one inspection trip visiting the manufacturing and research facilities of the major pharmaceutical manufacturers.

Students who fail to complete the requirements for graduation within seven years from the time of their first registration in the School shall satisfy the requirements in effect at the time they apply for graduation.

All University degrees are conferred by the Board of Governors upon recommendation of the faculties of the various schools and colleges. Degrees are granted at the close of the semester or Summer Session in which the students complete their work.

Candidates for degrees to be conferred at the close of the second semester must be present in person to receive their degrees unless excused by the deans of their colleges. No individual may be exempted from the provisions of this University regulation except by official action of the Board of Governors of the University.

Substitutions: A student who desires to substitute another course in place of any course prescribed in his curriculum must obtain permission for such substitution from the Committee on Scholarship.

Physical Education. Two hours of physical education for men, to be taken during the first year of residence, and four hours of physical education for women, to be taken during the first and second years of residence, are required for graduation of students presenting fewer than 58 semester hours, unless previous credit has been allowed.

Grade Points. The School of Pharmacy requires a minimum standard of scholastic quality. The quality of a student's work is expressed in grade points, based only on grades earned at West Virginia University (including Potomac State College of West Virginia University). The grade-point average is computed on all work for which the student has registered, except for the courses with grades of "W" and "WP," and is based on the following grade-point values:

A	B	C	D	F	WF	I	X
4	3	2	1	0	0	0	0

Provided, however, that when a student receives a grade of "I" and later removes the incomplete grade, his average grade-point standing shall be calculated on the basis of the new grade. It is the student's responsibility to keep informed of his grade-point standing. This information may be obtained at any time from the Dean of the School.

Students are permitted to register in any course for which a grade of "D" has been received. In such cases the second grade shall supersede the first, provided it is not lower than "D."[1]

FIVE-YEAR EDUCATIONAL PROGRAM FOR PHARMACY

The University has approved a five-year program of study and training for graduation from the School of Pharmacy. The program will consist of two years of pre-pharmacy requirements and a professional curriculum consisting of three academic years. The first class to enter the professional curriculum with two years of pre-pharmacy courses will be in September, 1961, and will graduate as of June, 1964. On and after April 1, 1965, each candidate for a degree in pharmacy must have had not less than five full academic years of training, including both pre-pharmacy instruction and a minimum of three years of professional instruction. The two-year pre-pharmacy requirement for admission to the professional curriculum of the School of Pharmacy follows:

Algebra	3 hr.	English Composition	6 hr.
Biology	8 hr.	Physics	8 hr.
Chemistry, General	8 hr.	Public Speaking	3 hr.
Chemistry, Qualitative	4 hr.	Trigonometry	3 hr.
Chemistry, Quantitative	3 hr.	Electives	10 hr.
Economics	6 hr.		

[1]For teacher certification, the student is responsible for every registration in a course for which a grade of F, FIW, or WF is received. The grade-point average is computed on all work attempted.

These requirements total 62 hours exclusive of Military Science and Tactics or Air Science and Physical Education. The Electives may be selected from the following groups, not to exceed the amounts indicated.

		Not more than
GROUP 1. *Not to exceed 8 hours.*	History	6 hr.
	Humanities	8 hr.
	Political Science	6 hr.
GROUP 2. *Not to exceed 6 hours.*	American Literature	6 hr.
	English Literature	6 hr.
	Language	6 hr.
GROUP 3. *Not to exceed 6 hours.*	Business Law	3 hr.
	Money and Banking	3 hr.
	Principles of Advertising	3 hr.
GROUP 4. *Not to exceed 6 hours.*	Art	3 hr.
	Music Appreciation	3 hr.
	Philosophy	6 hr.
	Photography	3 hr.
	Psychology, General	3 hr.
	Sociology	3 hr.

NOTE: Upon petition to the Committee on Admissions, modifications of the recommended electives may be approved.

PROFESSIONAL CURRICULUM OF THE FIVE-YEAR PROGRAM

(Effective as of September, 1961)

THIRD YEAR

First Semester	*Hr.*	*Second Semester*	*Hr.*
Anatomy (human)	3	Microbiology 220	5
Chemistry 233	5	Chemistry 238	4
Pharmacy 101	3	Pharmacy 104	2
Pharmacy 102	3	Pharmacy 105	2
Pharmacy 103	1	Pharmacy 122	2
Pharmacy 121	3	Pharmacy 141	3
	18		18

FOURTH YEAR

First Semester	*Hr.*	*Second Semester*	*Hr.*
Biochemistry 139	4	Pharmacy 108	2
Pharmacy 106	3	Pharmacy 123	3
Pharmacy 107	2	Pharmacy 124	3
Pharmacy 143	2	Pharmacy 272	5
Pharmacy 142	3	Physiology 141	4
Pharmacy 271	3	Elective	2
	17		19

FIFTH YEAR

First Semester	*Hr.*	*Second Semester*	*Hr.*
Pharmacology 160	5	Pharmacy 204	2
Pharmacy 201	3	Pharmacy 205	5
Pharmacy 202	2	Pharmacy 206	2
*Pharmacy 203	2	Pharmacy 222	3
Pharmacy 221	3	Pharmacy 282	2
Pharmacy 281	3	*Elective	3
	18		18

*Seniors will alternate the semester in which they will enroll in Pharmacy 203 (Hospital Pharmacy) and the required senior elective.

Pharmacy Course Numbers for the Five-Year Program

Course Number	*Semester Given*	*Credit Hours*	*Course Name*
PHARMACY			
Pharm. 101	I	3	Orientation and Principles of Pharmacy
Pharm. 102	I	3	Pharmaceutical Calculations
Pharm. 103	I	1	First Aid
Pharm. 104	II	2	General Pharmacy Lectures
Pharm. 105	II	2	General Pharmacy Laboratory
Pharm. 106	I	3	General Pharmacy II Lectures
Pharm. 107	I	2	Introductory Pharmacy Dispensing
Pharm. 108	II	2	Public Health and Hygiene
Pharm. 201	I	3	Prescriptions
Pharm. 202	I	2	Prescription Practice
Pharm. 203	I, II	2	Hospital Pharmacy
Pharm. 204	II	2	Prescription Practice
Pharm. 205	II	5	Pharmacy and Chemistry of Medicinal Products
Pharm. 206	II	2	Medical Adjuncts
PHARMACY ADMINISTRATION			
Pharm. 121	II	3	Marketing of Drug Products
Pharm. 122	II	2	History of Pharmacy
Pharm. 123	II	3	Pharmaceutical Law
Pharm. 124	II	3	Pharmacy Accounting
Pharm. 221	I	3	Pharmacy Management
Pharm. 222	II	3	Pharmacy Management
PHARMACOGNOSY			
Pharm. 141	II	3	Pharmacognosy
Pharm. 142	I	3	Pharmacognosy
Pharm. 143	I	2	Pharmacognosy
PHARMACEUTICAL CHEMISTRY			
Pharm. 271	I	3	Inorganic Pharmaceutical Chemistry
Pharm. 272	I	5	Organic Pharmaceutical Chemistry
Pharm. 281	I	3	Assay and Pharmaceutical Testing
Pharm. 282	II	3	Biological and Chemical Therapy

CURRICULUM IN PHARMACY*

(To be discontinued after September, 1959)

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Biol. 1	4	Biol. 2	4	Chem. 105	4	Chem. 115	3
Chem. 1	4	Chem. 2	4	†Mil. or Air Sci. 3	2	†Mil. or Air Sci. 4	2
English 1	3	English 2	3	Pharm. 4	2	Pharm. 6	4
†Mil. or Air Sci. 1	2	†Mil. or Air Sci. 2	1	Pharm. 5	3	Pharm. 7	2
Pharm. 1	3	Pharm. 3	2	Pharm. 11	3	Pharm. 12	2
Pharm. 2	2	†Phys. Ed. 2	2	Physics 1	4	Physics 2	4
†Phys. Ed. 1	1						
	19		16		18		17

*142 hours are required for graduation.

†Those not completing the Military (or Air) Science and Physical Education requirements are required to make selections of approved electives to complete the required hours for graduation.

THIRD YEAR				FOURTH YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
Chem. 233	5	Microbiol. 220	5	Pharmacol. 160	5	Pharm. 107	3
Econ. 1	3	Chem. 238	4	Pharm. 105	2	Pharm. 109	2
Pharm. 102	2	Econ. 2	3	Pharm. 108	3	Pharm. 113	5
Pharm. 103	2	Pharm. 111	3	Pharm. 110	3	Pharm. 114	3
Pharm. 106	3	Pharm. 112	2	Safety Ed. 127	2	Pharm. 203	3
Physiol. 141	4		—		—		—
	19		17		15		16

Suggested Elective Courses

FIRST SEMESTER		SECOND SEMESTER	
Course	*Hr.*	*Course*	*Hr.*
Art 123—Lettering	2	Art 123—Lettering	2
Bot. 273—Plant Physiology	4	Bus. Law 112—Business Law	3
Bus. Law 111—Business Law	3	Chem. 142—Assigned Topics	1 to 5
Chem. 141—Assigned Topics	1 to 5	Chem. 162—Colloidal Chem.	4
Chem. 214—Qual. Organic Anal.	3	Chem. 274—Hist. of Chemistry	2
Chem. 247—Stereochemistry	2	Chem. 214—Qual. Organic Anal.	3
Chem. 277—Synthetic Drugs	2	Chem. 277—Synthetic Drugs	2
Chem. 343—Adv. Organic Chem.	4	English 3—English Literature	3
Econ. 111—Money and Banking	3	English 4—English Literature	3
English 3—English Literature	3	English 5—American Literature	3
English 4—English Literature	3	English 6—American Literature	3
English 5—American Literature	3	English 23—Business English	3
English 6—American Literature	3	English 25—Intro. to Poetry	2
English 23—Business English	3	English 26—Intro. to Fiction	2
English 25—Intro. to Poetry	2	English 27—Intro. to Drama	2
English 26—Intro. to Fiction	2	English 126—Adv. Composition	3
English 27—Intro. to Drama	2	Finance 111—Business Finance	3
English 125—Adv. Composition	2	French 2*	3
French 1*	3	Geol. 1—Physical Geol.	3
Genetics 111—Elem. Genetics	2	Genetics 111—Elem. Genetics	2
Geol. 1—Physical Geol.	3	German 2*	3
Geol. 184—Mineralogy	4	Hist. 2—World Civilization since the Reformation	3
German 1*	1	Hist. 53—Making of Modern America, 1865 to Present	3
German 121—Scientific German	3	Humanities 2—Intro. Course	4
Hist. 1—World Civilization from the Earliest Times to the Reformation	3	Humanities 182—Amer. Civilization	3
Hist. 52—Growth of American Nation to 1865	3	Mktg. 115—Prin. of Retailing	3
Humanities 1—Intro. Course	4	Math. 3—College Algebra	3
Humanities 181—Amer. Civilization	3	Math. 4—Plane Trigonometry	3
Journ. 113—Prin. of Advertising	3	Pharm. 101—Show Card Design and Window Display	2
Mktg. 111—Prin. of Marketing	3	Pharm. 104—Qual. Anal. Alkaloids	2
Math. 3—College Algebra	3	Pharm. 117—Dispensing	1 or 2
Math. 4—Plane Trigonometry	3	Pharm. 121—Household Products	1 or 2
Pharm. 116—Pharmaceutical Investigation	2 or 3	Pharm. 116—Pharmaceutical Investigation	2 or 3
Pharm. 117—Dispensing	1 or 2	Pharm. 122—Manufacturing Pharmacy	2
Pharm. 119—Marketing Drug Prod.	3	Physics 110—Problems in General Physics	2
Pharm. 120—Cosmetics	1 or 2	Physics 116—Photography	3
Physics 109—Problems in General Physics	2	Psych. 1—Intro. to Psych.	3
Speech 3—Voice and Diction	3	Psych. 110—Applied Psych.	3
Speech 11—Public Speaking	3	Speech 3—Voice and Diction	3
Sociol. 1—Intro. Sociol.	3	Speech 11—Public Speaking	3
Zool. 1—General Zoology	4	Zool. 2—General Zoology	4
Zool. 231—Comparative Anat.	5		

*Unless offered for entrance credit.

COURSES OF INSTRUCTION

PHARMACY

Professor GEILER

1. PRINCIPLES OF PHARMACY. I. 3 hr. A brief survey of the historical background of pharmacy, the development and purpose of the United States Pharmacopoeia and National Formulary, together with a systematic study of weights and measures, and fundamental pharmaceutical processes and terminology. (45 hr.) Lectures and recitations. Mr. Blissitt

2. PHARMACEUTICAL CALCULATIONS. I. 2 hr. The mathematical problems and calculations encountered in and peculiar to pharmaceutical practice. (30 hr.) Mr. Blissitt and Mr. Geiler

3. PHARMACEUTICAL CALCULATIONS. II. 2 hr. A continuation of Pharm. 2. (30 hr.) Mr. Blissitt and Mr. Geiler

4. GENERAL PHARMACY 1, LECTURES. I. 2 hr. A course dealing with the theories, processes of manufacture, and nomenclature of simple galenical preparations used in pharmacy, both official and non-official. (30 hr.) Lectures and recitations. Mr. Geiler

5. GENERAL PHARMACY 1, LABORATORY. I. 3 hr. A laboratory course to accompany Pharm. 4, where representative examples of various preparations are prepared. (135 hr.) Laboratory. Mr. Geiler and Mr. Blissitt

6. GENERAL PHARMACY 2. II. 4 hr. A detailed study of the more complex types of official and non-official preparations. (60 hr.) Lectures and recitations. Mr. Wojcik

7. INTRODUCTORY PHARMACY DISPENSING. II. 2 hr. A study of the compounding and dispensing of the more difficult types of pharmaceutical preparations. (90 hr.) Laboratory. Mr. Wojcik and Mr. Blissitt

103. PUBLIC HEALTH AND HYGIENE. I. 2 hr. A study of the measures required for the maintenance of health and for the prevention and control of disease, and the application of the pharmacist's knowledge, skill, and facilities to the promotion of the health and welfare of the public in cooperation with public and private health agencies. (30 hr.) Lectures and recitations. Mr. Bergy

105. HISTORY OF PHARMACY. I. 2 hr. A course designed to give the student a deeper appreciation of the background of pharmacy and its development from the ancient times to the present. (30 hr.) Lectures and recitations. Mr. Wojcik

108. DISPENSING PHARMACY. I. 3 hr. A course dealing with the fundamentals of prescriptions including the receiving, compounding, pricing, and dispensing. The course includes a study of prescriptions with special reference to incompatibilities and the techniques in the proper dispensing thereof. A brief summary of prescription latin is included. (45 hr.) Mr. Hayman

109. DISPENSING PHARMACY. II. 2 hr. A laboratory course giving practical work in compounding the more difficult and unusual prescriptions. (90 hr.) Laboratory. Mr. Bergy and Mr. Blissitt

113. PHARMACY AND CHEMISTRY OF MEDICINAL PRODUCTS. II. 5 hr. A comprehensive study of the acids, bases, salts, and preparations which are commonly used in the practice of pharmacy with emphasis on the official compounds and preparations. (75 hr.) Lectures and recitations. Mr. Geiler

116. PHARMACEUTICAL INVESTIGATION. I or II. 1-3 hr. Original investigation in pharmacy or pharmaceutical chemistry. Staff

117. DISPENSING PHARMACY. I or II. 1-3 hr. A practical course in the dispensing of prescriptions, open to a few students upon permission. The students assist in compounding of prescriptions in the Health Service Pharmacy under the immediate supervision of a registered pharmacist. (45 to 90 hr.) Miss George

120. COSMETICS. I. 1 or 2 hr. A laboratory course devoted to the compounding of a large and varied number of cosmetic preparations. (45 to 90 hr.) Laboratory. Mr. Bergy

121. Household Products. II. 1 or 2 hr. A laboratory course devoted to the preparation of a variety of household products. (45 to 90 hr.) Laboratory. Mr. Bergy

122. Manufacturing Pharmacy. II. 2 hr. A course dealing with the formulation and mechanical fabrication of pharmaceutical preparations on a pilot-plant scale. (90 hr.) Laboratory. Mr. Bergy

203. Biological and Chemical Therapy. II. 3 hr. A study of hormones, glandular products, antibiotics, vitamins, and the more recent chemotherapeutic agents used medicinally. The course includes the methods of preparation and standardization of biologicals. (45 hr.) Laboratory and recitations. Mr. Bergy

Pharmacognosy

Assistant Professor O'Connell

11. Pharmacognosy. I. 3 hr. A course in which the more important vegetable drugs are studied, giving especial emphasis to the history, commerce, collection, identification, preservation, standards, active constituents, and their medicinal preparations and use. (45 hr.) Lectures and recitations. Mr. O'Connell

12. Pharmacognosy. II. 2 hr. A continuation of Pharm. 11. (30 hr.) Lectures and recitations. Mr. O'Connell

112. Microscopical Pharmacognosy. II. 2 hr. A study of the microscopical characteristics of the commercial starches, powdered vegetable drugs, and their adulterants. (90 hr.) Laboratory. Mr. O'Connell

Pharmacy Administration

Assistant Professor Wojcik

101. Show Card Design and Window Display. II. 2 hr. A laboratory course which offers the fundamentals in show card writing, emphasizing the use of the brush, arrangement and color harmony, and the design and installation of professional window displays. (45 hr.) Laboratory. Mr. Hayman

102. Pharmacy Accounting. I. 2 hr. A course in the fundamentals of accounting, especially adapted to the needs of the pharmacist. (90 hr.) Laboratory. Mr. Wojick

111. Pharmaceutical Law. II. 3 hr. A course designed to give the student a broad knowledge of the legal problems which confront the pharmacist. Special attenis given to the federal and state laws relating to the practice of pharmacy, narcotics, poisons, the pure food, drug, and cosmetics acts, and the legal relationship of the pharmacist to the public. (45 hr.) Lectures. Mr. Hayman

114. Pharmacy Management. II. 3 hr. A study of the business problems involved in planning, merchandising, operation, and control of a retail pharmacy. The course includes store location, organization and management, financing, departmentization and arrangement, selection and supervision of personnel, buying, pricing, sales promotion, selling, and control of stock, expenses, and credits. (45 hr.) Lectures and recitations. Mr. Wojcik

119. Marketing of Drug Products. I. 3 hr. A study of the methods of marketing, channels of distribution, development of pharmaceutical specialties, types of retail pharmacies and their locations, terms of sale, pricing, code marking, and stock control of merchandise. (45 hr.) Lectures. Mr. Wojcik

Pharmaceutical Chemistry

Professor Bergy

104. Qualitative Analysis of Alkaloids and Synthetics. II. 2 hr. A laboratory course concerned with a study of the chemical reactions of the alkaloids and methods for their identification and separation. (90 hr.) Laboratory. Mr. Bergy

106. Inorganic Pharmaceutical Chemistry. I. 3 hr. A study of the inorganic chemicals which are used as medicines or in the preparation of medicines. (45 hr.) Lectures and recitations. Mr. Bergy

107. Organic Pharmaceutical Chemistry. II. 3 hr. A study of the organic chemicals which are used as medicines or in the preparation of medicines. (45 hr.) Lectures and recitations. Mr. Bergy

110. Assay and Pharmaceutical Testing. I. 3 hr. Application of principles and technics of analytical chemistry to the analysis of official and non-official preparations. (105 hr.) Lectures and laboratory. Mr. Bergy and Mr. Blissitt

The School of Physical Education and Athletics

The Division of Physical Education was established on the Campus in 1928 and became the School of Physical Education and Athletics in 1937. The purposes of the School are:

1. To provide leadership and facilities for a regular program of instruction and participation in physical activity according to individual needs, capacities, and interests.
2. To prepare teachers and supervisors in health and physical education in elementary schools, secondary schools and colleges.
3. To prepare coaches of athletic teams in secondary schools and colleges.
4. To prepare workers in the fields of recreation and safety education.
5. To provide prerequisites for entrance into departments in universities giving training in physical therapy.
6. To organize and develop recreation programs for students and faculty groups.

Organization

For purposes of administration and instruction the School of Physical Education and Athletics is organized into the following departments:

I. General program for men.
II. General program for women.
III. Curriculum for majors and graduate students preparing for positions in health and physical education, athletic coaching, and recreation.
IV. Intramural sports.

Facilities

The Field House, located on the lower campus near the Monongahela River, provides facilities for classes, intramural sports, and intercollegiate athletics (capacity 6,135) and contains the administrative offices of the School of Physical Education and Athletics.

Elizabeth Moore Hall, situated on the upper campus, provides social, recreation, and physical education facilities primarily for women students. It also houses the offices of the department of general program for women.

Mountainlair, a student activities center, is located on University Avenue near the stadium bridge.

Mountaineer Field is located within the stadium on the north border of the lower campus. It has a seating capacity of 34,000. It provides facilities for intercollegiate football, and track and field events.

The administrative offices of the Department of Intercollegiate Athletics are located in the University Avenue end of the stadium.

Outdoor activities areas for the Physical Education, Intramural Sports, and Intercollegiate Athletics Programs are located on the Old Athletic Field, stadium, tennis courts and on the new campus off Highway 7, one and one-half miles north of the Field House.

Intramurals

A broad intramural sports program for men and women is provided by the School of Physical Education and Athletics. It is the aim of the Intramural Department to encourage all students of the University to participate in organized athletic sports and wholesome active recreation. Competition is promoted between student groups and individuals. Such natural groupings as classes, fraternities, sororities, dormitories, and other nonfraternity units form the basis for activities in competitive sports.

THE GENERAL PROGRAM FOR MEN AND WOMEN*

The general program, in and through selected activities, provides an opportunity for students to develop general physical efficiency, skills in sports, dance, and wholesome health and recreation attitudes. Experiences gained in the program provide a basis for participation in intramural and varsity athletics, as well as on- and off-campus recreation.

Purposes

The courses are specifically designed to (a) meet the needs of students for an organized program of instruction, (b) develop physical efficiency and skill in activity, (c) experience satisfaction and pleasure in participation, (d) aid in promoting better health by establishing habits of regular participation in physical activity, and (e) develop favorable attitudes and appreciation of wholesome recreation and spectator sports as part of present day living.

Students satisfying the course demands meet the University requirements in Physical Education as a prerequisite for graduation. Those students who are unable to participate in the regular program because of physical handicaps are assigned to the adapted program.

GENERAL PROGRAM COURSES FOR MEN

1. General Program for Men. I. 1 hr. Required of all freshmen in the University (except majors in Physical Education). Students who are found to be physically unable to engage in regular activity will be assigned to an adapted program of physical education recommended by University physicians and under the direction of the Staff of the Department. All other students will be assigned to the regular program of physical education. These students will be grouped for instruction and organized competition in the following activities: Conditioning exercises, group games, wrestling, golf, swimming, volleyball, basketball and gymnastics. Mr. Tork and Staff

2. General Program for Men. II. 1 hr. Required of all freshmen in the University (except majors in Physical Education). Students in the regular program will be grouped for organized competition in the following activities: Conditioning exercises, group games, basketball, softball, bowling, tumbling and apparatus, badminton, handball and tennis. Mr. Tork and Staff

GENERAL PROGRAM COURSES FOR WOMEN

General Program for Women. Physical Education 3, Orientation to Physical Education, is required of all freshmen women students in the fall semester.

The student should select one course from each of the following groups to complete the four-hour requirement:

Group 1—Phys. Educ. 14, 15, 16 ..... (Swimming)
Group 2—Phys. Educ. 5, 11, 12, 17, 18 ..... (Dancing)
Group 3—Phys. Educ. 4, 6, 7, 8, 13, 21, 25 ..... (Individual Sports)

3. Orientation in Physical Education. I. 1 hr. Team sports, body mechanics, and dance. Required of all freshman women. Mrs. Beto, Miss Carruth, Miss Williams

4. Golf and Bowling. I, II. 1 hr. Staff

5. Ballroom Dance. I, II. 1 hr. Fundamentals of ballroom dancing. For men and women students. Mrs. Wiedebusch

6. Stunts, Tumbling, and Trampoline. I, II. 1 hr. Staff

7. Archery. I, II. 1 hr. Miss Hurst

8. Recreational Sports. I, II. 1 hr. Badminton, table tennis, deck tennis, shuffleboard. Miss Hurst

*This requirement should be met by the men in this first year of residence and by women in their first two years of residence. Two hours of general program from the requirement for men and four hours for women are required for teacher certification.

9. Team Sports. I. 1 hr. Volleyball and hockey. Mrs. Beto

10. Team Sports. II. 1 hr. Staff

11. Folk Dancing. I, II. 1 hr. Staff

12. Square Dance. II. 1 hr. Staff

13. Tennis and Bowling. I, II. 1 hr. Staff

14. Elementary Swimming and Diving. I, II. 1 hr. Staff

15. Intermediate Swimming and Diving. I, II. 1 hr. Staff

16. Advanced Swimming, Life Saving and Water Safety. II. 1 hr. (Opportunity to qualify for American Red Cross Senior Life Saving Certificate.) Staff

17. Elementary Modern Dance. I, II. 1 hr. Staff

18. Advanced Modern Dance. I, II. 1 hr. PR: Phys. Educ. 17. (Open to Men and Women). Staff

19. Adapted Activities. I, II. 1 hr. (May be substituted for the required courses on recommendation of the Health Service.) Staff

21. Physical Fitness. I, II. 1 hr. Staff

25. Fencing. I, II. 1 hr. Staff

101, 102. General Program for Junior and Senior Women. I, II. 1 hr. Staff

Students may select any course from the above groups for which they have not previously received credit.

Physical Education for Elementary Teachers

Women students who are planning to teach in elementary grades are required to take the following courses:

41. Physical Education for Elementary Teachers. I. 1 hr. (W).
42. Physical Education for Elementary Teachers. II. 1 hr. (W).
43. Physical Education for Elementary Teachers. I, II. 2 hr.

Men students who are planning to teach in elementary grades are required to take the following courses:

1. General Program for Men. I. 1 hr.
2. General Program for Men. II. 1 hr.
43. Physical Education for Elementary Teachers. I, II. 2 hr.

Camp Counselor Recommendations

To be eligible for recommendation by the School of Physical Education and Athletics as camp counselors, students majoring in Physical Education or Recreation must have completed Rec. 1, 3, and 106, and four of the five following courses: Rec. 5, 7, 8, 10, and 201, or equivalent. Other students must complete, in addition to the courses listed for majors in Physical Education and Recreation, four credit hours in activity courses in Physical Education, including Phys, Educ. 54 and 66, or equivalents.

THE STANDING COMMITTEES

Executive: Mr. Duncan (Chairman); Miss Carruth, Messrs. Brown, Holter, Schierlacher, Semon, and Tork.

Curriculum: Miss Carruth (Chairman); Mrs. Beto, Miss Hurst, Miss Williams, Messrs. Bonsall, Holter, Maurice, Schaus, Schierlacher, Semon, Tork, and Yost.

Graduate: Mr. Holter (Chairman); Miss Carruth, Miss Hurst, Messrs. Schierlacher, Semon, and Yost.

Intramural Sports: Mr. Ringer (Chairman); Mrs. Beto and Mr. Romanoski.

Placement: Mr. Tork (Chairman); Miss Hurst and Mr. Semon.

Scholarship: Mr. Semon (Chairman); Miss Williams and Mr. Tork.

Student-Faculty Relations: Mrs. Wiedebusch (Chairman); Miss Hutchison, Messrs. Federovitch, Hutchison, and Ringer.

Swimming and Water Safety: Mr. Yost (Chairman); Miss Williams, Messrs. Maurice and Ringer.

REQUIREMENTS FOR DEGREES

The degree of Bachelor of Science in Physical Education or the degree of Bachelor of Science in Recreation may be conferred upon any student who satisfies the entrance requirements and offers 128 hours with an average of "C." Candidates for Physical Education degrees must also meet certain School and departmental requirements.

Each undergraduate must pass a proficiency examination in English after the beginning of his Junior year in order to qualify for graduation. He shall take the examination during the first semester of his Junior year, and if not declared proficient, shall repeat the examination as many times as necessary. It is the student's responsibility to make arrangements to take the examination.

PHYSICAL EDUCATION: REQUIRED AND ELECTIVE SUBJECTS

Of the 128 hours which are required for the degree of Bachelor of Science in Physical Education, at least 45 hours are required in the School of Physical Education and Athletics. The remaining hours must be selected from such courses as may be approved by the adviser. A candidate for a degree is advised to make a selection of one of the teaching combinations on page 408 and to complete the number of semester hours required in each teaching group.

Courses are arranged to meet University requirements for the degree of Bachelor of Science in Physical Education as well as state requirements for teacher certification. The curriculum for the four-year course has been so arranged that consideration is given to various activities which should constitute a well-rounded program of physical education for boys and girls of high-school age. The courses are arranged in ten groups as follow:

A. Required activity courses in Physical Education for men: Phys. Educ. 5, 51, 52, 53, 54, 55, 56, 121, 125, 126, 132, 155, and for women: 5, 31, 32, 33, 35, 54, 61, 63, 66, 130, 131, 132.

B. Required theory courses in Physical Education for both men and women, unless otherwise indicated are: Phys. Educ. 36 (W),* 71, 77, 155 (M),* 175, 176, 180, 191, 278.

C. Required courses in Recreation: Rec. 4.

D. Required courses in Health Education: Health Educ. 2 and 101.

E. Required courses in Safety Education: Safety Educ. 127 (W) and Safety Educ. 181.

F. Required courses in English.

G. Required courses in science which furnish a background for physical education.

H. Required courses in Education which consider the principles of general education.

I. Required courses in social studies.

J. Required courses in Music and Art.

K. Required courses in Military Science and Tactics and Air Science for men of the University.

L. Elective courses which are taken at the pleasure of the student.

It is understood that a sound and vigorous body is essential to all students who elect this curriculum. Each student must therefore pass a thorough physical examination before he will be allowed to enroll in this program. Special emphasis is placed upon personal and professional qualifications of the student as well as upon a high standard of scholarship.

*Courses marked (M) are open to men; courses marked (W) are open to women; all others are open to both men and women.

Student teaching in physical education is available in the University High School and in the elementary schools of Morgantown. Opportunity is provided also in the High School for practice coaching of high school athletic teams. Assisting in the General Program in physical education is required of all majors.

Advisers

Designated members of the staff of the School of Physical Education and Athletics serve as class advisers for all major students in Physical Education and Recreation.

It is the student's responsibility to know the requirements for graduation, second teaching field, and for certification. All students are urged to get acquainted with these regulations immediately.

Recommendation for Certification

The prospective teacher who intends to apply for certification for school service in the state should take care to satisfy requirements for other teaching fields and required courses in Education and Physical Education.

Method For Computing Grade Point Average For Teacher Certification, Effective June 5, 1956

For teacher certification, the student shall be responsible for every registration in a course. The grade-point average shall be computed on *all* work attempted.

Suggested Teaching Combinations for First-class High School Certification†

1. Physical education and biological science.
2. Physical education and mathematics.
3. Physical education and social studies.
4. Physical education and English.
5. Physical education and physical and general science.
6. Physical education and physical science.
7. Physical education and biological and general science.
8. Physical education and industrial arts.
9. Other combinations approved by the adviser.

THE CURRICULUM FOR PHYSICAL EDUCATION MAJORS

Degree: Bachelor of Science in Physical Education

The curriculum for majors is organized to provide professional preparation for men and women who are desirous of becoming teachers of health and physical education in high schools and colleges. The courses are arranged to meet the University requirements for the degree of Bachelor of Science in Physical Education, as well as the state requirements for teacher certification.

The following hours are required: Physical Education for men (38), for women (35); Health Education (4); Recreation (3); Safety Education (W) (4); (M) (2); English (12); Social Studies (14); Science (12); Education (20); Military Science and Tactics or Air Science (M) (8); Art (2); pertinent electives by advisement.

Women

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	Educ. 105	3	Educ. 106	3
Biol. 1	4	Biol. 2	4	Soc. Sci. 1	4	Soc. Sci. 2	4
Hist. 1	3	Hist. 2	3	English 18	3	P.E. 54	2
Music 10	2	Health Ed. 2	2	Rec. 4	3	P.E. 66	1
P.E. 31	1	P.E. 32	1	P.E. 61	1	English 5 or 6	3
P.E. 35	1	P.E. 36	2	P.E. 63	1	Electives	3
P.E. 71	2	P.E. 33	1	Art 30	2		
P.E. 5	1						
	17		16		17		16

†Required of all students desiring certification for teaching.

Women

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Safety Educ. 127	2	Zool. 171	4
P.E. 175	5	P.E. 132	2
Safety Educ. 181	2	P.E. 176	2
Health Ed. 101	2	P.E. 131	1
P.E. 130	1	P.E. 177	3
Electives	4	P.E. 180	2
		Electives	4
	16		18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
P.E. 191	2	P.E. 278	3
*Educ. 114)	3	*Educ. 114	3
*Educ. 120) or	2	*Educ. 120) or	2
*Educ. 124) elect.	4	*Educ. 124) elect.	4
*Educ. 152)	2	*Educ. 152)	2
Electives	3	Electives	2
	16		16

Men

FIRST YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3
Biol. 1	4	Biol. 2	4
Hist. 1	3	Hist. 2	3
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2
P.E. 71	2	Health Ed. 2	2
P.E. 51	2	P.E. 53	2
P.E. 5	1	P.E. 52	1
	17		17

SECOND YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
English 5 or 6	3	English 18	3
Soc. Sci. 1	4	Soc. Sci. 2	4
Music 10	2	Art 30	2
P.E. 55	2	P.E. 54	2
Rec. 4	3	P.E. 56	2
Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Electives	2-3	Electives	3
	18-19		18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Educ. 105	3	Educ. 106	3
P.E. 121	2	P.E. 132	2
P.E. 125	1	Zool. 171	4
Health Ed. 101	2	P.E. 126	1
P.E. 155	2	P.E. 176	2
P.E. 175	5	P.E. 180	2
Safety Ed. 181	2	P.E. 177	3
		Electives	2
	17		19

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
P.E. 191	2	P.E. 278	3
*Educ. 114)	3	*Educ. 114)	3
*Educ. 120) or	2	*Educ. 120) or	2
*Educ. 124) elect.	4	*Educ. 124) elect.	4
*Ed. 152)	2	*Educ. 152)	2
Electives	4	Electives	2
	17		16

*Required for those students desiring certification for teaching. May be taken the first or second semester of senior year.

Recreation Minor for Physical Education Majors

For students who, in addition to preparing for physical education as a first teaching field, have also the objective of fitting themselves for recreation leadership responsibilities in schools or in recreation programs sponsored by or in conjunction with school systems, a recreation minor is available. Such a minor also will add opportunities for service and increased income in summer recreation programs in communities, industries, or private agencies. Students are encouraged to take the following courses as a minimum:

		Hours
Rec. 3	(Camping)	2
Rec. 5	(Arts and Crafts)	2
Rec. 8	(Nature Recreation)	2
Rec. 10	(Recreation Dramatics)	2
Rec. 106	(Leadership Techniques)	2
Rec. 122	(Youth Organization & Group Work in Recreation)	2
Rec. 201	(Special Events)	2
Rec. 282	(Administration)	2
		16

THE CURRICULUM FOR RECREATION MAJORS

Degree: Bachelor of Science in Recreation

The major curriculum in recreation is planned primarily to prepare for professional responsibilities in community recreation systems and services, public and private, in industries, public housing, and similar fields.

Of the 128 hours which are required for the degree of Bachelor of Science in Recreation at least 54 hours are required in the School of Physical Education and Athletics. The remaining hours must be selected from courses approved by the adviser. It is generally advisable for those entering the recreation profession to prepare themselves in at least one interest area in addition to the physical education activities, by electing as many courses as possible in arts and crafts, or dramatics, or music, or nature recreation.

During the summer between the junior and senior years all Recreation majors are required to do at least eight weeks of supervised recreation leadership field work. The selected agency in which the student will do his work must be approved by the School of Physical Education and Athletics. Arrangements will be made for agency supervision and periodic visitation by the faculty supervisor. Evaluation of reports and observations will be made with the student.

The courses are arranged in nine groups and meet University requirements for the degree of Bachelor of Science in Recreation:

A. Required courses in Recreation: Rec. 1, 3, 5, 7, 8, 10, 102, 104, 106, 122, 201, 202, 204, 271, 282, and 296.
B. Required courses in Physical Education.
C. Required courses in Health Education.
D. Required courses in Safety Education.
E. Required courses in English and Speech.
F. Required courses in Science.
G. Required courses in Education.
H. Required courses in Social Studies.
I. Required courses in Military Science and Tactics or Air Science for men.
J. Required courses in Music.
K. Elective courses: Students preparing themselves for a particular field of recreation leadership responsibility will elect courses strengthening themselves for the field selected. For example, those interested in industrial recreation will elect Rec. 283 and such other courses as labor relations and personnel management. Recreation leadership in social, municipal and governmental fields, rural areas, and in school-sponsored programs in similar fashion require special complementary courses pertinent to each field.
L. One summer (at least 8 weeks) supervised field work (Rec. 145).

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem*	*Hr.*
English 1	3	English 2	3	Soc. Sci. 1) *or*		Soc. Sci. 2) *or*	
Humanities 1) *or*		Humanities 2) *or*		Econ. 1) elect.	4	Sociol. 1) elect.	4
Hist. 1) elect	4	English 5) elect.	4	Phys. 1	3	Speech 11 (M)	3
Biol. 1	4	Speech 165	2	Speech 11 (W)	3	P.E. 54 (W)	2
P.E. 5	1	Speech 166	1	Music 77 or 78	1	P.E. 56 (M)	2
P.E. 31 (W)	1	P.E. 32 (W)	1	Rec. 5	2	P.E. 66 (W)	1
P.E. 33 (W)	1	P.E. 36 (W)	2	Rec. 8	2	Rec. 3	2
P.E. 61 (W)	1	P.E. 53 (M)	2	P.E. 55 (M)	2	Music 10	2
P.E. 35 (W)	1	Rec. 1	3	P.E. 135 (W)	1	Rec. 10	2
P.E. 54 (M)	2	Mil. or Air Sci. 2	2	Mil. or Air Sci. 3	2	Mil. or Air Sci. 4	2
Mil. or Air Sci. 1	2					Electives (W)	4
Women	16	Women	16	Women	16	Women	17
Men	16	Men	17	Men	16	Men	17

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Rec. 106	2	Educ. 105) *or*	
Rec. 122	2	Psych. 122)	
Health Ed. 101	2	elect.	3
P.E. 52 (M)	1	P.E. 132	2
P.E. 135 (M)	1	Rec. 102	2
P.E. 175	5	Rec. 104	2
Safety Ed. 127	2	Rec. 145	3
Electives (W)	3	Pol Sci. 101	3
		Electives	2
Women	16	Women	17
Men	15	Men	17

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Journ. 212	3	Sociol. ("200 level"	
Soc. Work ("200		course)	3
level" course)	3	Rec. 202	3
Rec. 201	2	Rec. 271	3
Rec. 204	2	Rec. 206	2
Rec. 282	2	Electives	4
Safety Ed. 181	2		
Rec. 292	2		
Women	16	Women	15
Men	16	Men	15

ELECTIVES

Art 30 or 130 (Appreciation of the Arts)	2	Soc. Work 221 (Field of Social Work)	3
Art 121 (Fundamentals of Design)	3	Soc. Work 230 (History of Social Work)	3
Art 122 (Fundamentals of Design)	3	Soc. Work 260 (Child Welfare)	3
Art 127 (Crafts)	3	Soc. Work 285 (Introduction to Public Welfare)	3
Econ. 115 (Labor Problems)	3	Sociol. 205 (Urban Sociology)	3
Econ. 218 (Collective Bargaining and Labor Relations)	3	Sociol. 206 (Rural Sociology)	3
Econ. 241 (Public Finance)	3	Sociol. 208 (The Community)	3
Educ. 221 (Audio-Visual Resources)	2	Sociol. 210 (Marriage and Family)	3
English 5 or 6 (American Literature)	3	Sociol. 211 (Soc. of Childhood)	3
English 16 (Creative Writing)	3	Sociol. 220 (Social Change)	3
English 18 (Advanced Composition)	3	Sociol. 231 (Race Relations)	3
English 160 (Contemporary Literature)	3	Sociol. 234 (Juvenile Delinquency)	3
Forestry 140 (W.Va. Resources)	3	Sociol. 235 (Collective Behavior)	3
Forestry 142 (Rec. Development)	2	Sociol. 244 (Culture and Personality)	3
Home Econ. 133 (Home Crafts)	2	Sociol. 250 (Human Relations in Industry)	3
Management 216 (Personnel Management)	3	Sociol. 270 (Group Dynamics)	3
Philos. 104 (Principles)	3	Speech 3 (Voice and Diction)	3
Psych. 114 (Psych. in Personnel Work)	3	Speech 120 (Group Discussion)	3
Psych. 115 (Psych. in Industry)	3	Speech 125 (Advanced Public Speaking)	3
Psych. 116 (Social Psych.)	3	Speech 161 (Stage Scenery)	3
Psych. 122 (Developmental Psych.)	3	Speech 162 (Play Directing)	3
Psych. 125 (Mental Hygiene)	3	Speech 163 (Stage Lighting)	3
Psych. 229 (Abnormal Psych.)	3	Speech 164 (Theatre Workshop)	1-3
Psych. 233 (Problem Children)	3	Speech 200 (Art of Storytelling)	2
Soc. Work 212 (Community Resources)	3	Speech 223 (Advanced Group Discussion)	2
Soc. Work 215 (Psychosocial Growth)	2	Speech 268 (Creative Dramatics)	2
		Zool. 265 (Ornithology)	3

The major curriculum in Recreation is planned primarily to prepare for professional recreation responsibilities in community systems and services, public and private, in industry, public housing and similar fields. Recreation majors who wish to be certified to teach physical education should take during the regular four-year period, and in whatever additional semesters are necessary, the following courses in addition to those listed in the Recreation curriculum:

Course Number and Title		*Men*	*Women*
Health Educ. 2	Personal and Community Hygiene	2	2
Phys. Educ. 63	Hockey and Volleyball		1
Phys. Educ. 71	Orientation in Physical Education	2	2
Phys. Educ. 51	Fundamentals of Baseball and Gymnastics	2	
Phys. Educ. 121	Athletic Training	2	
Phys. Educ. 125	Program Assisting	1	
Phys. Educ. 126	Program Assisting	1	
Phys. Educ. 130	Program Assisting		1

Phys. Educ. 131	Program Assisting		1
Phys. Educ. 155	Theory of Coaching	2	
Phys. Educ. 176	Adapted Program	2	2
Phys. Educ. 177	Principles of Physical Education	3	2
Phys. Educ. 180	Elementary School Physical Education	3	3
Phys. Educ. 190	Introduction to Tests and Measurements	2	2
Phys. Educ. 278	Administration of Physical Education	3	3
Zool. 171 *and* Educ. 106, 114, 120, 124, 152	Human Physiology	4	4
		14	14

Recreation Minor

Those students who are majoring in fields other than physical education (e.g. art, music, social work, education, etc.) may elect to work for a minor in recreation. This will equip them for leadership responsibility in various types of recreation service such as private agencies, industries, summer recreation programs in communities. Students majoring in Education may prepare themselves for recreation leadership in schools or in recreation programs sponsored by or in conjunction with school systems. The following courses are required for a minor in Recreation:

Rec. 1	Introduction to Recreation	3
Rec. 3	Camping	2
Rec. 5	Introduction to Arts & Crafts in Recreation	2
Music 10	Music in Human Relations	2
Rec. 8	Introduction to Nature Recreation	2
Rec. 10	Introduction to Dramatics in Recreation	2
Rec. 106	Leadership and Leadership Techniques	2
Rec. 122	Youth Organizations & Group Work in Recreation	2
Rec. 201	Special Events in Recreation	2
Phys. Educ. 54	Individual and Dual Sports	2
Phys. Educ. 52 (M)	or (W) Swimming	1
Rec. 296	American Folk Dance	2
Rec. 282	Administration of Recreation	2

THE CURRICULUM FOR PRE-PHYSICAL THERAPY STUDENTS

Degree: Bachelor of Science in Physical Education

The following curriculum for pre-physical therapy students is organized to meet the University requirements for the degree of Bachelor of Science in Physical Education as well as satisfying the entrance requirements to physical therapy schools approved by the Council on Medical Education and Hospitals of the American Medical Association.

Entrance requirements to the various schools of physical therapy vary. The majority of physical therapy schools approved by the American Medical Association accept students if: (1) they have graduated from an approved school of physical education; (2) they have graduated from an approved school of nursing; or (3) they have completed two or three years of college work. Preference is given to those students who have specified credits in physics, chemistry, biology, psychology, and sociology.

FIRST YEAR				SECOND YEAR			
First Sem.	*Hr.*	*Second Sem.*	*Hr.*	*First Sem.*	*Hr.*	*Second Sem.*	*Hr.*
English 1	3	English 2	3	Soc. Sci. 1	4	Soc. Sci. 2	4
Biol. 1	4	Biol. 2	4	Physics 1	4	Psych. 1	3
Hist. 1	3	Hist. 2	3	Rec. 4	3	Art 30	2
P.E. 71	2	Health Ed. 2	2	Music 10	2	English 5 or 6	3
P.E. 31 (W)	1	P.E. 32 (W)	1	P.E. 55 (M)	2	P.E. 54	2
P.E. 35 (W)	1	P.E. 33 (W)	1	P.E. 61 (W)	1	P.E. 56 (M)	2
P.E. 51 (M)	2	P.E. 36 (W)	2	P.E. 63 (W)	1	Mil. or Air Sci. 4	2
P.E. 3 (W)	1	P.E. 53 (M)	2	Mil. or Air Sci. 3	2	Electives (W)	3-5
P.E. 5	1	P.E. 52 (M)	1	Elective (W)*	2-3		
Mil. or Air Sci. 1	2	Mil. or Air Sci. 2	2				
Women	16	Women	16	Women	17-18	Women	17-19
Men	17	Men	17	Men	17	Men	18

THIRD YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
Educ. 105	3	Educ. 106	3
Health Ed. 101	2	Zool. 171	4
Safety Ed. 181	2	P.E. 132	2
P.E. 121 (M)	2	P.E. 180	2
P.E. 125 (M)	1	P.E. 126 (M)	1
P.E. 155 (M)	2	P.E. 131 (W)	1
P.E. 130 (W)	1	P.E. 177	3
Safety Ed. 127 (W)	2	Psych. (elective)*	3
Psych. (elective)*	3	Electives*	2-4
Electives (M)*	2-4		
Electives (W)*	2-5		
Women	15-19	Women	15-19
Men	15-19	Men	18

FOURTH YEAR

First Sem.	*Hr.*	*Second Sem.*	*Hr.*
P.E. 191	2	P.E. 278	3
P.E. 175	5	English 18 or 21	3
Sociol. (elective)*	3	P.E. 176	2
Electives*	3-6	Sociol. (elective)*	3
		Speech 11	3
		Electives*	2-5
	16-19		16-19

*Electives should be chosen in accordance with admission requirements of the physical therapy school in which the student expects to enroll. Suggested electives are: Chem. 1, 2; Math. 2, 3, 4; Physics 2; Psych. 116, 122, 125, 218, 222, 236; Soc. 210, 211, 234, 235, 243; Soc. Wk. 212, 221, 260; Zool. 231, 232, 233, 235, 236, 237.

GRADUATE SCHOOL

The School of Physical Education and Athletics offers courses leading to the Master of Science Degree, with an emphasis in Health and Safety Education, Physical Education, or Recreation; or combinations of all three areas.

Students are admitted for graduate work in the School of Physical Education and Athletics provided they hold a baccalureate degree from an approved college; have a 2.5 grade point index for the work completed in their junior and senior undergraduate years; and satisfy prerequisites in the courses for which they register.

Students who do not meet the 2.5 grade-point average requirement may be admitted on probation and will be required to make a 3.00 average in the first 12 semester hours of residence work in order to continue.

Students are accepted as advanced degree candidates upon written application to the Committee on Graduate Courses of the School of Physical Education and Athletics and a preliminary qualifying examination following one semester, or two summer terms, (12 semester hours) of graduate residence work* provided they:

A. Have at least 24 semester hours or its equivalent** which is an undergraduate minor in either physical education, health and safety education, recreation, or a combination in these areas. The equivalent is determined by the Committee on Graduate Courses.

Physical Education Courses:

Anatomy, Physiology, Kinesiology 4
Health Problems for the School Child, Hygiene 4
Principles, or Organization and Administration of Health and Physical Education, or Leadership Activities 2
Physical Inspection and Correction of Remedial Defects 1
Theory and Practice of Physical Education as follows† 13

	Men	*Women*
Orientation in Physical Education	2	2
Team Sports	3-5	3
Recreational Activities, including Individual and Dual Sports	1-3	1-3
School and Community Activities such as Games, First Aid	1-4	1-4
Rhythmic Activities	1	3

*Courses taken in University Extension are accepted for degree purposes, provided the student has had prior approval from his advisor.

**Experience in teaching Health, Physical Education and Recreation Leadership, and coaching experience may be evaluated by special examination to adjust some of the undergraduate requirements.

†No credit in Physical Education shall be allowed for participation in Intercollegiate Athletics.

Recreation Courses:

Interpretation of Recreation	2
Sports and Physical Activities	4
Recreation Skills Courses	6
Camping and Nature Recreation	4
Public Relations	2
Community Recreation	2
Community Organization	2
Recreation Leadership	2

B. Demonstrate to the satisfaction of the Committee on Graduate Study a grasp of the important phases and problems of the field, the ability to successfully complete the program of study, and give promise for professional leadership.

Admission to the Graduate School

Students who wish to enter the Graduate School file application for admission with the Registrar of the University, who will forward the application to the Dean of the Graduate School. The application must request the registrar of the college or university previously attended to send an official transcript directly to the Registrar of the University at least one month in advance of registration days. Application forms may be obtained from the Registrar of the University.

Admission to Graduate School does not constitute admission to candidacy for the Master of Science Degree. The Dean of the Graduate School and the Graduate adviser in the School of Physical Education will advise the student concerning departmental prerequisites and advanced degree requirements.

THE DEGREE OF MASTER OF SCIENCE

Thirty-six semester hours are required for the Master of Science Degree, distributed as follows:

I. A *minimum* of 24 semester hours in the areas of Health Education, Physical Education, Recreation, and/or Safety Education, of which:
   A. 18 semester hours must be in a single interest area,* including the basic course, (Health Educ. 205 or Phys. Educ. 294, or Rec. 202, or Safety Educ. 283 and "Introduction to Research," HPERS 395).
   B. 3 semester hours in each of two allied areas: Health Education, Physical Education, Recreation *OR* Safety Education.

II. A minimum of 6 semester hours of approved course work in related areas other than Health Education, Physical Education, Recreation, and Safety Education.

III. Six semester hours of electives in the specialized or related areas.

IV. Six semester hours may be earned for the writing of a thesis; or 3 semester hours may be earned for the writing of a problem.

V. A minimum of 12 semester hours must be in courses numbered 300 and above.

VI. Degree candidates must have a 3.00 grade-point average for graduation.

*Health Education and Safety Education are considered a single area.

THE DEGREE OF DOCTOR OF EDUCATION

The Degree of Doctor of Education is offered in cooperation with the College of Education. Admission to the Graduate School and enrollment in graduate courses do not themselves imply acceptance of the applicant for a Doctor of Education Degree. The sequence of prerequisites to admission, prerequisites to candidacy, and requirements for the degree are as follows:

Prerequisites To Admission

Applicants expressing a desire to pursue a program leading to the Doctor of Education Degree are required to satisfy a College of Education faculty committee on prerequisites in the following ways:

A. Furnish evidence of three or more years of successful teaching and/or closely related educational experience.

B. A Master's Degree with a grade-point average of more than 3.00.

C. Demonstrate the ability to read comprehendingly and to use creditable oral and written English.

D. Demonstrate the ability to use the basic statistical processes.

E. Furnish evidence of wide reading in general and professional fields.

F. Show by means of oral and written tests a preparedness to undertake an organized program of advanced graduate study and research.

G. In addition to the foregoing, the Committee on Prerequisites may require a trial period of resident study.

Doctoral Committee

When an applicant has received the permission of the Graduate School to enter upon an organized program of advanced graduate study and research he will be assigned an adviser by the Dean of the Graduate School. The Dean of the Graduate School and the adviser will jointly select a doctoral committee consisting of not fewer than five members of whom at least one shall be from a field other than Education. The adviser shall serve as chairman of the doctoral committee and this committee shall have charge and direction of the applicant's program. This program, prepared by the adviser and the applicant, must be approved by the doctoral committee and the Dean of the Graduate School before the applicant is eligible to stand for the qualifying examination.

Qualifying Examinations

At a time to be determined by the doctoral committee after the applicant has spent at least one semester, or three summer terms of six weeks each, in full-time graduate work in on-campus residence beyond the Master's Degree or its equivalent, he will be admitted to written and oral comprehensive preliminary or qualifying examinations, conducted by the doctoral committee, in the areas of general professional background, specialization, and cognates. The applicant must (a) evidence a grasp of the important phases and problems of the field of study in which he proposes to major and their application to other fields of human knowledge and accomplishment; (b) demonstrate the ability to employ rationally the appropriate instruments of research; and (c) present a written tentative outline of a proposed research project.

The written qualifying examination precedes the oral that should follow within a reasonable time the successful completion of the written. If the committee is not satisfied with the applicant's showing, it will make specific recommendations for additional work in preparation for a second trial that may be undertaken not earlier than six months nor later than twelve months after the first trial. The outcome of the second attempt will be considered final.

When the applicant has passed the qualifying examinations he will formally be promoted to candidacy for the Doctor of Education Degree. Admission to candidacy must precede the final examination by at least one academic year in time and 12 semester hours in credit. A maximum of 24 semester hours of graduate work pursued in fulfillment of the requirements for the Master's Degree, if of suitable character and quality, may be credited toward the doctorate.

NOTE: It is the responsibility of all applicants for admission to the Graduate School and all candidates for graduate degrees, certificates, and other such recognitions to conform to the General Regulations as published in the latest *Announcements of the Graduate School.*

Requirements For Completion

Curriculum. The degree of Doctor of Education is not achieved by the mere accumulation of course credits nor the completion of a definite residence requirement. The exact amount and nature of course work to be undertaken by a candidate will be determined in the light of his previous preparation and the demands of his chosen field of application. The aggregate of courses of graduate study shall be not fewer than 70 semester hours, exclusive of the dissertation, of which a minimum of one-half of the semester hours in Education and a minimum of one-third of the semester hours in Health, Physical Education, Recreation and Safety shall be of the

"300" level. Not more than 12 of the 70 hours may be earned in extension and/or practicum or field work. The program of course work shall include a minimum of 24 semester hours in Education, and minimum of 24 semester hours in the areas of Health, Physical Education, Recreation and/or Safety. These courses shall be so ordered and distributed as to promote broad and systematic knowledge and the ability to prosecute independent research.

Candidates having an earlier graduate degree or its equivalent from West Virginia University will be required to complete a prescribed minimum of resident graduate work in one or more other institutions.

Residence. In general, requirements for the Doctor of Education Degree contemplate three years of full-time graduate work beyond the Bachelor's Degree, including a minimum of two semesters in residence in full-time graduate study in West Virginia University beyond the Master's Degree or its equivalent.

Special Requirements. Competence in the advanced techniques of statistical research; evidence of a functioning command of appropriate methods of educational investigation; and mastery of the rules of manuscript preparation.

Dissertation. The candidate must submit a dissertation pursued under the direction of his doctoral committe on a problem in the field of his major interest. The dissertation must show familiarity with previous knowledge of the general problem; embody a clear definition of the particular problem pursued; employ valid methods of attack; demonstrate the ability to create and evaluate new knowledge; present and interpret unequivocally the results of the candidate's individual knowledge, present and disclose his ability to apply his contribution to the solution of educational problems. The final copy of the dissertation must be approved by a designated member of the University's English Department.

Final Examination. If the candidate's dissertation is approved and he has fulfilled all other requirements, he will be admitted to final oral examination before his doctoral committee. At the option of his committee a written examination also may be required. The final examination or examinations shall be concerned with the dissertation, its contribution to knowledge, and the candidate's grasp of his field of specialization and its relation to other fields. No candidate may proceed to his final examination until he has fulfilled residence requirements for the degree and until he has completed at least 12 semester hours of graduate study subsequent to his admission to candidacy.

Time Limitation. Requirements for the Doctor of Education Degree must be completed within seven years of admission to candidacy.

COURSES OF INSTRUCTION

HEALTH EDUCATION

2. Personal and Community Health. I, II. 2 hr. Those phases of hygienic living which should be understood by all college students. Special emphasis on personal aspects of hygiene. Mr. Holter

101. The School Health Program. I, II, S. 2 hr. PR: Educ. 105. A study and analysis of the health program which takes place in the school or through the efforts of school personnel; the organization, educational aspects, and personnel relationships involved in school health services, healthful school living, and health education. Required for teacher certification. Mr. Holter

201. Advanced School Health. I, S. 3 hr. PR: Health Educ. 101, 20 hr. of Educ., or consent. An analysis of problems in school health services, healthful school living, the nature of health education and the scope of health instruction which confronts teachers and administrators. Mr. Holter

203. School Mental Health. II, S. 3 hr. PR: Health Educ. 101, 20 hr. of Educ., or consent. Designed to promote teacher understanding and efficiency in dealing with the emotional growth of normal boys and girls. The problems, factors, and techniques involved in developing the human relation skills in the school situation. Mr. Holter

205. Philosophy of Health Education. I, S. 3 hr. PR: Health Educ. 2, 101, or equiv. Analysis of the scientific bases, purposes, procedures, and content, with implications for school and public health education programs. Mr. Holter

301. Community Health. II, S. 3 hr. PR: Health Educ. 2, 205, or equiv. Health problems requiring community action, basic public health activities, community organization for health protection, voluntary health agencies, school health program and the role of state and federal agencies in the community health program. Mr. Holter and Visiting Lecturers

376. Evaluation of Health Information. I, S. 3 hr. PR: Health Educ. 2, 201, or 20 hr. of Educ. and consent. Study of published material to determine basic scientific accuracy and value. Mr. Holter

397. Individual Research Problems in Health Education. I, II, S. 1-4 hr. PR: Health Educ. 205, HPERS* 395 or 396, or Educ. 301. Opportunity for independent study and investigation of pertinent problems. For advanced students with practical experience. Mr. Holter

PHYSICAL EDUCATION

Professional Curriculum

30. Beginning and Intermediate Swimming. I, II. 1 hr. (M). Instruction in the basic swimming strokes and beginning diving. All physical education and recreation majors who do not pass the swimming skill tests must register for this course. Mr. Ringer

31. Athletics. I. 1 hr. (W). Fundamentals, skills, and practice in playing soccer and basketball. Mrs. Beto

32. Athletics. II. 1 hr. PR: Phys. Educ. 31. (W). Techniques and practice in teach- and officiating basketball. Fundamental skills and practice in softball. Mrs. Beto

33. Swimming and Diving. I. 1 hr. PR: Phys. Educ. 14 or equiv. (W). Miss Williams

34. Tennis and Archery. I. 1 hr. (W). Miss Hurst

35. Modern Dance Technique. I. 1 hr. (W). Mrs. Wiedebusch

36. Movement and its Rhythmic Structure. II. 2 hr. (W). PR: Phys. Educ. 35. Understanding of the nature and scope of rhythm in physical education programs. Mrs. Wiedebusch

37. Advanced Modern Dance. I, II. 1 hr. PR: Phys. Educ. 35. (W) Continuation of Phys. Educ. 35, including methods of teaching. Mrs. Wiedebusch

38. Dance Composition. II. 2 hr. PR: Phys. Educ. 35, 36 (W). Problems in force, time, and space as elements of expressive movement. Mrs. Wiedebusch

†41. Physical Education for Elementary Teachers. I. 1 hr. (W). A variety of basic activities giving an understanding of content in the total physical education program of the elementary school. Miss Hurst

†42. Physical Education for Elementary Teachers. II. 1 hr. (W). A continuation of P.E. 41. Miss Carruth

†43. Physical Education for Elementary Teachers. I, S. 2 hr. PR: Phys. Educ. 41, 42, or consent. Philosophy, objectives, identification of physical education, health education, and recreation, and a broad selection of activities adapted to the primary and intermediate levels. Laboratory work and observation in the elementary schools are required. Mr. Tork and Mrs. Wiedebusch

51. Fundamentals of Baseball and Gymnastics. I. 2 hr. (M). Mr. Bonsall and Mr. Harrick

52. Advanced Swimming, Life Saving, and Water Safety. I, II. 1 hr. (M). PR: Phys. Educ. 30 or equiv. Theory and practice in aquatics and water safety, opportunity to qualify for American Red Cross Senior Lifesaving Certificate. Mr. Ringer

*See page 422.

†These courses are required for certification for Elementary School teaching certificates.

53. Junior and Senior High School Activities and Games. I. 2 hr. (M). Theory and fundamentals of speedball, soccer, volleyball, touch football, archery, and games of low organization. Mr. Bonsall and Mr. Ringer

54. Individual and Dual Sports. II, S. 2 hr. Theory and practice in fundamentals of badminton, bowling, golf, handball, and tennis. Mr. Semon

55. Fundamentals of Basketball and Wrestling. I. 2 hr. (M). Mr. Schaus and Mr. Harrick

56. Fundamentals of Track and Football. II. 2 hr. (M). Mr. Romanoski and Mr. Barnette

61. Stunts, Tumbling, and Trampoline. II. 1 hr. (W). Mr. Bonsall

63. Hockey and Volleyball. I. 1 hr. (W). Fundamentals, skills, and practice. Miss Williams

66. Graded Games and Lead-up Games. II. 1 hr. Games for all ages which may be used in home, school, playground, and gymnasium, and lead-up games in various sports. Miss Hurst

68. Officiating Athletics. II. 1 hr. (W). Rules, techniques, and laboratory work. Mrs. Beto

71. Orientation in Physical Education. 2 hr. Purposes, scope, and possibilities in health education, physical education, recreation, and coaching in the school program. Mr. Duncan and Mr. Semon

121. Athletic Training and First Aid. I. 2 hr. (M). Lectures, demonstrations, and practice work in training and first aid in athletics. Mr. Gwynne

124. Instructorship in Swimming, Lifesaving, and Water Safety. II. 1 hr. PR: Phys. Educ. 52 or equiv. Teaching methods in swimming and water safety. Meets American Red Cross Certification Standards and course completion carries eligibility for teaching swimming, life saving, and water safety. Open only to students who have valid lifesaving cards. Mr. Yost

125. Program Assisting. I. 1 hr. (M). Mr. Semon

126. Program Assisting. II. 1 hr. (M). Mr. Semon

130. Program Assisting. I. 1 hr. (W). Miss Carruth

131. Program Assisting. II. 1 hr. (W). Miss Carruth

132. Folk Dance. II. 2 hr. PR: Phys. Educ. 5 Fundamentals and materials of folk dancing. Miss Hurst

155. Theory of Coaching. I. 2 hr. A study of coaching methods, systems, and team development in the various varsity-type sports. Mr. Barnette

171. Basic Rhythms and Dance Accompaniment. II. 2 hr. PR: One sem. of modern dance. Understanding of the basic principles of rhythm as they relate to body movement. (Ability to play the piano is not required.) Miss Hutchison

175. Anatomy and Kinesiology. I, II. 5 hr. Principles of mechanics of body movement in relation to anatomical structure. Mrs. Beto

176. The Adapted Program in Physical Education. II. 2 hr. PR: Phys. Educ. 175. A basic course dealing with deviations from the normal and the organizing and adapting of physical education programs to meet the needs of atypical students or those with special problems. Mr. Yost

177. History and Principles of Physical Education. II. 3 hr. Development of physical education from early civilization to present time. Basic principles underlying modern programs. Miss Carruth

180. The Physical Education Program in the Elementary School. II. 2 hr. Theory and practice of activities in physical education for elementary school children. Mr. Tork

191. Introduction to Tests in Health and Physical Education. I. 2 hr. A background course in physical achievement tests. History of development; review of outstanding tests. Essential procedures used in evaluating tests and their results, including statistical analysis. Mr. Yost

206. Program in Individual Sports. S. 3 hr. PR: Phys. Educ. 51, 55, 56, 155 or equiv. Designed for coaches of interscholastic athletics. A study of advanced coaching techniques and methods in track and field activities, wrestling, and gymnastics. Messrs. Bonsall, Harrick, and Romanoski

207. Program in Team Sports. S. 3 hr. PR: Phys. Educ. 51, 55, 56, 155, or equiv. Designed for coaches of interscholastic and intercollegiate athletics. A study of advanced techniques, systems of play, offense, defense, methodology, staff organization, and related problems in the coaching of football, basketball, and baseball. Messrs. Barnette, Harrick, and Schaus

209. Rhythms and Dance. II, S. 3 hr. PR: Consent. Designed for classroom teachers in elementary and secondary schools. Principles of movement, materials, and practicum in dance. (Not open to physical education majors.) Miss Hurst

210. Program in Sports. S. 3 hr. PR: Phys. Educ. 31, 32, or equiv. Designed especially for women engaged in teaching and coaching. Organization and administration of individual, dual, and team sports. Practicum in girls' and womens' sports. Mrs. Beto

212. Extracurricular Physical Education Activities for High School Girls. I, S. 3 hr. PR: Consent. Critical analysis of physical education extracurricular activities from the standpoint of objectives and contributions to the general welfare of the participants; value of the activities in the school and community; relationship to the physical education program; problems associated with the organization and administration of the problems. Miss Williams

219. Modern Dance Techniques and Composition. I, S. 3 hr. PR: Phys. Educ. 35, 36 or consent. Application of scientific principles of movement; basic principles of music as related to dance movement; choreorgraphic principles; practicum in dance movement. Principles for teaching the dance and problems involved in planning programming. Miss Carruth

225. Officiating Football and Basketball. I, S. 2 hr. PR: Phys. Educ. 155 or equiv. Rules, techniques of officiating, officials' organizations, and laboratory work. Mr. Tork

278. Administration of Physical Education. II, S. 3 hr. PR: Phys. Educ. 71, 177. Modern theories in physical education and guiding principles in organization and administration of the program. Mr. Duncan

279. Administration of Athletics. S. 3 hr. PR: Experience in coaching and administration. The course is designed for persons engaged in actual coaching or administration. A study of the problems associated with the organization of and administration of interscholastic and intercollegiate athletic programs and their relationship to physical education. Mr. Barnette and Mr. Duncan

292. Physical Education for Classroom Teachers in the Elementary School. I, S. 2 hr. PR: Teaching experience or consent. Philosophy, objectives, activities, equipment, utilization of space, program planning, and evaluation for a functional program in elementary school physical education. (Not open to major students.) Mr. Tork

293. Organization and Administration of Intramural Sports. I, S. 3 hr. PR: 4 hr. of phys. educ. activity courses. Critical analysis with view to justification from standpoint of objectives and of contribution to general welfare of students participating. Organization and administration of programs on secondary and college levels. Mr. Semon

294. Philosophy of Physical Education. I, II, S. 3 hr. PR: Phys. Educ. 177, 278 or equiv. and consent. Critical analysis of bases for physical education programs. Recent trends affecting planning on each educational level, and probable growth of responsibilities of instructors. Miss Carruth

295. Principles and Practices of Adapted Physical Education. I, S. 2 hr. PR: Zool. 171, Phys. Educ. 175, or equiv. Principles and philosophy in building an adapted program, types of injuries, classification of students, and application of adapted exercises. Mr. Yost

319. History and Philosophy of the Dance. II, S. 3 hr. PR: Phys Educ. 219 or equiv. A cultural survey of the dance as an expression of the society it represents; philosophy of the dance; the relation of dance to other art forms; dance as an educational experience and the study of the works of the outstanding artists of today. Miss Carruth

380. Curriculum Development in Physical Education. S. 3 hr. PR: Phys. Educ. 294. Application of educational principles to program planning in physical education. Formulation of criteria as a basis for curriculum revision to meet changing needs in the school program. (Limited to major students.) Miss Carruth

397. Individual Research Problems in Physical Education. I, II, S. 1-4 hr. PR: Phys. Educ. 294, HPERS 395 or 396; or Educ. 301. Opportunity for independent study and investigation of pertinent problems. For advanced students with practical experience. Miss Carruth, Mr. Holter, and Mr. Yost

RECREATION

1. Introduction to Recreation. II. 3 hr. A framework into which the other recreation courses with all their implications will fit. History, trends, concepts, relationship to other fields; survey of national organizations, leaders, and literature. This course is basic to all other recreation courses. Mr. Scherlacher

2. Indoor and Outdoor Recreation Centers. I. 2 hr. PR: Rec. 1. Introduction to leadership planning and operation of programs, areas, and facilities. Mr. Scherlacher

3. Camping. II. 2 hr. PR: Rec. 1. Introduction to the camping movement. Purposes, camp sites and equipment, activities, vocational opportunities and qualifications of camp personnel, particularly the counselor's relationship to outdoor living. Mr. Hutchison

4. Recreation and the School. I. 3 hr. Study of basic concepts of play, recreation, leisure, and their relationships to personal and community life. Human interest areas of approach to organized programs in school recreation centers. Mr. Scherlacher

5. Introduction to Arts and Crafts in Recreation. I. 2 hr. Workshop course. Place of arts and crafts in recreation, their organization, and integration with other phases of recreation. Mr. Hutchison

7. Introduction to Music in Recreation. I. 2 hr. Function of music in recreation program and how it is organized and adapted to meet varied tastes and needs. Staff

8. Introduction to Nature Recreation. II. 2 hr. Lecture and workshop course. Methods and approaches of nature lore in recreation, including camping. Mr. Hutchison

10. Introduction to Dramatics in Recreation. II. 2 hr. Workshop course. Importance and organization of dramatics in a recreation program; adaptation to various phases of recreation to meet varied needs; methods of presentation. Mr. Hutchison

102. Program Planning. II. 2 hr. PR: Rec. 1. Fundamentals for general program planning; considering needs, facilities, age groups, local customs, climatic factors, etc. Planning involved in specific activities. Mr. Hutchison

104. Functional Planning of Recreational Facilities. II. 2 hr. PR: Rec. 1. Problems and principles governing the planning for function and the effective usage of facilities in recreation. Adaptation of existing facilities for multiple use. Mr. Scherlacher

106. Leadership and Leadership Techniques. II. 2 hr. PR: Rec. 1. Meaning of leadership, its application to field of recreation, and analysis of techniques. Mr. Hutchison

122. Youth Organization and Group Work in Recreation. II. 2 hr. PR: Rec. 1. National organizations such as 4-H Clubs, Y.W.C.A., Boys Clubs, Y.M.C.A., etc., will be studied as to how they fit into the community picture and what leadership approach they use. Examination of social group-work method.
Mr. Scherlacher

145. Field Work. 3 hr. Recreation majors are required to have at least 8 weeks of supervised recreation leadership field work. Usually during summer following junior year. Arrangements under direction of adviser. Mr. Scherlacher

201. Special Events in Recreation. I, S. 2 hr. PR: 14 hr. in Educ. or consent. Events for special days or weeks, including the planning, organization, and conduct of banquets, carnivals, dances, festivals, pageants, and other school, community, and recreation events. Actual events will be staged as class projects for further preparation of responsible leaders. Mr. Hutchison

202. Philosophy of Recreation. II, S. 3 hr. PR: Major students in recreation, graduate students in Educ. and Phys. Educ., or consent. Interpretation of recreation as a basic part of the living process; importance to individual, community, and national welfare; social and economic significance. Mr. Scherlacher

204. Recreation Hobbies. I, S. 2 hr. PR: Rec. 1 or equiv. Lecture and workshop. Value of hobbies to youth and adults; participation in various types of hobbies; methods of oganization and presentation; nature and scope. Mr. Hutchison

264. Co-Recreation. S. 2 hr. PR: 12 hr. in Educ. Psychology of coeducation group participation in recreation activities at the secondary-school age level. Workshop sessions in the various recreation interest areas applicable to teen-agers.
Mr. Hutchison

271. Administration of Camps and Preparation of Camp Counselors. II, S. 3 hr. PR: Rec. 3 or equiv., or consent. Principles involved in modern camping programs methods of organization and administration of camps. Mr. Hutchison

282. Administration of Recreation. I, S. 2 hr. PR: Major in recreation, graduate status in Educ. or Phys. Educ., or consent. General principles of administration; organization of administrative procedures in effective recreation service to the community. Study of legal aspects, finance, programs, public relations, facilities, etc. Mr. Scherlacher

283. Organization and Development of Industrial Recreation. II. 2 hr. PR: Rec. 1, 2, 282, or equiv. Primarily for students who have had some work or experience in recreation and are interested in a more complete knowledge of the field.
Staff

294. Recreation Leadership in Groups. II, S. 2 hr. PR: 5 hr. general and educational psychology, Rec. 22 or equiv., and at least 1 year of leadership experience with teen-age children. For those working in voluntary agencies such as Y.M.C.A., Boy Scouts, Girl Scouts, etc. Also for those responsible for special-interest groups in extra-curricular activities. Mr. Scherlacher

296. American Folk Dance. I, S. 2 hr. PR: Phys. Educ. 132 or equiv. Study of American Square and Round Dance and their place in recreation, their origin and relationship to American culture and folklore. Analysis of techniques in leading and calling. Mr. Scherlacher

297. Music and Dramatics in Recreation. S. 3 hr. PR: Rec. 1 or 7, 10, or 20 hr. in Educ., or equiv. The place of music and dramatics in recreation programs sponsored by municipal, voluntary, and school agencies. How these two interest areas are woven into recreation programs with emphasis in the informal leadership approach. Also their use in camp programs.
Mr. Scherlacher and Visiting Instructors

305. Human Interest Areas in Recreation Planning. I, II, S. 3 hr. PR: Rec. 202 or 20 hr. in Educ. or equiv. Exploration of the human interest areas which are the sources of recreation program content. Their adaptation to school and municipal recreation program planning. Mr. Scherlacher and Visiting Instructors

306. Leadership in School-Age Recreation Programs. II, S. 2 hr. PR: Rec. 106 or 2 year's teaching experience. Leadership techniques used in various recreation activities of school-age groups. Analysis of differences between teaching and and recreation leadership. Mr. Hutchison

307. Community Recreation. I, S. 3 hr. PR: Rec. 202 or consent. A study of problems related to the provision of adequate recreation service for a community. Standards and quality of recreation service; methods of measuring existing services and their coordination; and community organization procedures. Course is designed for leaders in voluntary agencies, schools, churches, and municipal recreation organizations. Mr. Scherlacher and Visiting Instructors

397. Individual Research Problems in Recreation. I, II, S. 1-4 hr. PR: Rec. 202, HPERS 395 or 396, or Educ. 301. Opportunity for independent study and investigation of pertinent problems. For advanced students with practical experience. Mr. Scherlacher

SAFETY EDUCATION

127. Accident Prevention and First Aid. I, S. 2 hr. Standard and advanced first aid as outlined by the American Red Cross. Miss Hurst

181. Principles of Safety Education. I. 2 hr. An introductory course. Basic principles of safety education and accident prevention. Deals with the development of the safety movement and its place in education. Mr. Yost

281. Programs in Safety Education. I, II, S. 3 hr. PR: Consent. Materials and methods in total school program. Organization and administration of instruction in safe living in school, home, travel, industry, physical education, athletics, and recreation. Mr. Yost

283. Philosophy of Safety Education. I, II, S. 3 hr. PR: Safety Educ. 181, 281, or equiv. Study of the place of safety education in modern living; philosophies of safety education as expounded by leaders in the field; emphasis on accident causation and accident prevention in various areas of safety; and research implications. Mr. Yost

365. Organization, Administration, and Supervision of School Safety Education. I, II, S. 3 hr. PR: 14 hr. of Educ. or Safety Educ. 281 or 283 or equiv., and consent. Designed for teachers, school administrators, college instructors, and others responsible for directing or supervising safety programs in the school. Deals with the problems, policies, practices, and procedures involved in the organization, administration, and supervision of a comprehensive accident prevention and safety education program for the school. Considers integration factors of the School Program with the Community Safety Program. Mr. Yost

397. Individual Research Problems in Safety Education. I, II, S. 1-4 hr. PR: Safety Educ. 283, HPERS 395 or 396, or Educ. 301. Opportunity for independent study and investigation of pertinent problems. For advanced students with practical experience. Mr. Yost

HPERS

HPERS courses involve all areas — Health Education, Physical Education, Recreation, and Safety Education.

200. Workshop in Youth Fitness. S. 2 hr. PR: Consent. Meaning of total fitness—physical, social, emotional, spiritual. Relationship of fitness to modern living, general problems of concern to all participants and opportunity in work groups to explore special interest areas as completely as desired.
Miss Carruth, Messrs. Duncan, Holter, and Scherlacher

378. Problems in Health, Physical Education, Recreation, and Safety. I, S. 3 hr. PR: Health Educ. 205 or Phys. Educ. 294 or Rec. 202 or Safety Educ. 283. Content and relationships among physical education, health education, recreation, and safety programs. Aims to develop critical analysis. Follows seminar procedure and presupposes broad academic experience on part of the student.
Mr. Holter

389. Measurement in Health, Physical Education, Recreation, and Safety. II, S. 3 hr. PR: Health Educ. 205 or Phys. Educ. 294 or Rec. 202 or Safety Educ. 365. Critical and statistical analysis of outstanding tests in health, physical education, recreation, and safety, and their results. Mr. Holter

390. The Role of the School Administrator in Health, Physical Education, Recreation, and Safety. S. 2 hr. PR: 20 hr. in Educ. A seminar for school administrators on the solution of problems associated with planning, scheduling, and conducting school programs in health, physical education, recreation, and safety. Consideration is given to program, activity, leadership, facilities, supplies, equipment, finances, and supervision. (Not open to major students.)
Miss Carruth, Messrs. Duncan, Holter, and Scherlacher

395. Introduction to Research in Health, Physical Education, Recreation, and Safety. II, S. 3 hr. PR: Health Educ. 205 or Phys. Educ. 294 or Rec. 202 or Safety Educ. 283. An analysis of the nature and purpose of research with an emphasis upon the characteristics of research in areas of health, physical education, recreation, and safety. (Required of all Master of Science degree candidates.) Miss Carruth, Messrs. Holter and Yost

396. Research Seminar in Health, Physical Education, Recreation, and Safety. II, S. 3 hr. PR: HPERS 395 or Educ. 301. Research techniques as basis for compiling and organizing materials for research projects. Each student completes an individual project. (Required of all candidates for the doctoral degree.)
Miss Carruth, Messrs. Holter and Yost

399. Thesis. I, II, S. 6 hr. PR: HPERS 395 or 396. Staff

THE STAFF

Part III

Staff members whose names are followed by an asterisk are employed in cooperation with the United States Department of Agriculture.

Richard Atkins Ackerman, B.S., M.S., *Assistant Professor of Dairy Husbandry; Assistant Dairy Husbandman, Agricultural Experiment Station* (1946), 1928.

John Davis Adams, B.S., D.D.S., *Professor and Head of Prosthodontics II* (1958).

Robert Evans Adams, B.S., Ph.D., *Assistant Professor of Plant Pathology; Assistant Plant Pathologist, Agricultural Experiment Station* (1953).

Kenneth Lyle Adriance, A.B., *Assistant Professor of Air Science* (1956).

Warren Kendall Agee, B.A., M.A., Ph.D., *Professor of Journalism; Dean of the School of Journalism* (1958).

Charles Deison Albright, B.S.M.E., *Instructor in Mechanics* (1957).

Bertha Hawley Allen, A.B., *Social Director* (Retired) (1945), 1944.

Howard Bushnell Allen, B.S., M.S., Ph.D., *Professor of Education* (1932), 1920.

Lillian Allen, M.A., *Instructor* (Retired) *in English* (1946).

Vance Quentin Alvis, B.S., M.A., Ph.D., *Associate Professor of Commerce* (1956).

Nellie Perrel Ammons, A.B., M.A., Ph.D., *Professor of Biology* (1953), 1920.

Gerald Clifton Anderson, B.S., M.S., Ph.D., *Professor and Head of Animal Husbandry; Animal Husbandman, Agricultural Experiment Station* (1956), 1950.

Walter L. Anderson, B.A., M.S., *Instructor in Mathematics* (1956), 1953. (Resigned May 31, 1958.)

Chester A. Arents, B.S.E.E., M.S.E.E., M.E., *Dean, College of Engineering and Mechanic Arts; Mechanical Engineer, Engineering Experiment Station* (1955).

Walter Wardlow Armentrout, B.S., M.S., Ph.D., *Professor and Head of Agricultural Economics and Rural Sociology; Agricultural Economist, Agricultural Experiment Station* (1936), 1924.

William H. Armstrong, B.S., M.S., *Associate Professor of Industrial Engineering* (1957).

Robert Russell Ashburn, A.B., A.M., *Professor and Head of Romance Languages* (1954), 1925. (Deceased November 21, 1958.)

Russell Owen Asplund, B.Sc., M.S., *Assistant in Agricultural Biochemistry, Agricultural Experiment Station* (1956). (Resigned October 1, 1958.)

Richard Aspinall, D.B., Ph.D., *Director* (Retired) *of Student Affairs and University Extension* (1948), 1930.

Paul Alexander Atkins, B.S.J., M.A., *Assistant Professor of Journalism* (1956), 1953.

Jo Mather Ault, Diploma From Cooper Union, *Instructor* (part-time) *in Art* (1945).

Andrew Kolb Ault, B.S., M.Ed. *Instructor in Education; Teacher of Industrial Arts, University High School* (1952).

Bipin Chandra Awasthi, M.S., *Instructor in Mathematics* (1958).

Gladys Raber Ayersman, B.S.H.E., M.S., *Instructor in Home Economics* (1954), 1943.

Nelda Helenbert Baber, B.S.H.E., *Dietitian, Arnold Hall* (1957).

Charles Henry Baer, B.S., M.Sc., *Instructor in Biology* (1950), 1948.

Wesley Marvin Bagby, A.B., M.A., Ph.D., *Assistant Professor of History* (1957), 1956

Chester Ward Bain, B.A., M.A., Ph.D., *Visiting Professor of Political Science* (1957). (Resigned May 31, 1958).

Wilfred Harmon Baker, B.S.C.E., M.S.C.E., *Professor of Civil Engineering* (1955), 1941.

Robert Dodge Baldwin, A.B., A.M., Ph.D., *Professor of Education* (1933), 1931.

Edwin Clyde Barbe, B.S.E.E., *Instructor in Electrical Engineering* (1956).

Richard Hall Barnard, B.S.Ch.E., M.S.Ch.E., *Instructor* (part-time) *in Chemical Engineering* (1957).

Horace Leslie Barnett, A.B., M.S., Ph.D., *Professor of Mycology; Mycologist, Agricultural Experiment Station* (1948), 1945.

William Quentin Barnette, B.S., M.A., *Assistant Professor of Education, Freshman Basketball Coach, Freshman Football Coach* (1958), 1950.

Donald Stanford Barnhart, A.B., M.A., Ph.D., *Associate Professor of History* (1956).

William Derrick Barns, A.B., M.A., Ph.D., *Associate Professor of History* (1954), 1940.

Edgar Overton Barrett, III, A.B., *Publicity Director, Intercollegiate Athletics* (1956), 1951.

Karl Melvin Barth, B.S., M.S., *Assistant in Agricultural Biochemistry* (1958).
Elizabeth Ann Barthiolomew, M.S., *Herbarium Assistant, Biology* (1941), 1938.
Alice Lee Googe Bauer, A.B., B.S. in L.S., *Chief Technicial Processes Librarian, Library* (1954).
Newton Moore Baughman, B.S., M.S., Ph.D., *Associate Professor of Agronomy; Associate Agronomist, Agricultural Experiment Station* (1957), 1949.
Nelson Robert Bauld, Jr., B.S.M.E., *Instructor in Mechanics* (1958).
Everett Lawrence Baxter, B.A., *Asociate Professor of Military Science and Tactics* (1955). (Resigned June 30, 1958.)
Mary Catherine Bayles, A.B., A.M., *Assistant Registrar* (1946), 1924.
Michel Joseph Beauchemin, Ed.B., M.A., *Instructor in Romance Languages* (1956).
John Francis Lockett Bell, B.S.F., *Assistant Forester, Island Creek Experiment Forest, Agricultural Experiment Station* (1953).
Patricia Ann Bell, R.N., *Nurse, Infirmary* (1955).
Waldo E. Bell,* B.S., *Agricultural Engineer, Agricultural Extension Service* (1945).
Boris Constant Belpuliti, B.S.P.E., M.S.P.E., *Director, Mountainlair* (1954), 1953.
Glenn Delmar Bengtson, B.S., *Assistant Editor, Agricultural Experiment Station* (1953).
Donald William Bennett, B.S.M.E., *Assistant Professor of Air Science* (1958).
Herald Durward Bennett, Ph.D., *Associate Professor of Biology* (1955), 1948.
Johathan McCauley Bennett, C.A.A. Flight Examiner, C.A.A. Commercial Pilot Rating, C.A.A. Certified Airplane and Engine Mechanic, *Flight Examiner and Flight Instructor, Aeronautical Engineering* (1951).
Donald Guy Benoit, Captain, B.S., *Assistant Professor of Air Science* (1955). (Resigned June 30, 1958).
Dorothy Jean Benson, B.S.H.E., M.S.H.E.Ed., *Dietitian, Men's Residence Hall* (1953).
Stanley I. Berger, B.A., M.A., Ph.D., *Assistant Professor of Psychology* (1957).
Gordon Alger Bergy, B.S., M.S., Ph.D., *Professor of Pharmacy* (1918), 1916.
Opal Virginia Berkshire, *Assistant Director in Charge of Food Services, Mountainlair* (1956).
Betty Isaac Stewart Berthy, A.B., M.S.H.E.Ed., *Assistant Professor of Home Economics* (1957), 1956.
Howard Phillip Berthy, B.S.F.,* *Extension Forester, Agricultural Extension Service* (1953), 1950.
Charity White Beto, A.B., M.S., *Associate Professor of Physical Education* (1957), 1946.
Donald John Bettinger, B.S., M.S., Ph.D., *Assistant Professor of Chemistry* (1954). (Resigned September 1, 1958.)
Ralph Craddock Bierer, *Instructor in Mining Extension* (1952).
Robert Lee Birch, B.S., M.S., *Instructor in Zoology* (1956), 1948.
James Daniel Biser, *Mechanician in Industrial Engineering* (1957).
Carter Richard Bishop, M.A., Ph.D., *Professor of English* (1953), 1929.
Charles William Blissitt, B.S., Ph.D., *Assistant Professor of Pharmacy* (1958).
Ruth Naomi Blodgett, A.B., B.S. in L.S., *Documents Librarian* (1951), 1932.
Sallie Shrewsbury Board, A.M., *Instructor in English* (1945).
Anna Mildred Boggs,* A.B., *Associate State Leader* (Retired) *in Home Demonstration Work, Agricultural Extension Service* (1956), 1927.
Charles Harmon Boggs, Jr., A.B., B.S., M.D., *Physician, University Health Service* (1957). (Resigned May 15, 1958.)
Lorise Caroline Boger, A.B., M.S., *Senior Catalogue Librarian* (1957).
Evelyn Lazenby Bonar, A.B., M.A., *Instructor in English* (1958).
Donovan Hiner Bond, B.S.J., M.A., *Associate Professor of Journalism* (1956), 1946.
Irving Dean Bonney, B.A., B.L.S., *Chief Reference Librarian* (1957), 1954. (Resigned July 15, 1958.)
William Alfred Bonsall, B.S., M.S., *Assistant Professor of Physical Education; Director of Intramural Sports, Gymnastics Coach* (1958), 1950.
George Paul Boomslitter, M.S.C.E., *Professor Emeritus of Mechanics; Engineer Emeritus, Engineering Experiment Station* (1949), 1920.
Kenneth Ray Boord,* *Associate Extension Editor, Agricultural Extension Service* (1953), 1943.
Winifred Marie Booth, B.S.Ed., M.A., *Assistant to Dean, College of Education* (1948), 1930.
Jennie Delawder Boughner, A.B., *Extension Assistant, Library* (1946), 1915. (Retired June 30, 1958.)
George William Bowers, B.S., *Associate Professor of Air Science* (1957).

HERMAN M. BOWERS,* B.S.AGR., *Assistant Director, Agricultural Extension Service* (1951), 1929.

BETTY BOYD, A.B., *Dean of Women* (1955), 1948.

SAM BOYD, JR., B.D.A., M.F.A., *Associate Professor of Speech* (1952), 1943.

CHARLES C. BOYER, B.S., M.A., PH.D., *Associate Professor of Gross and Neurological Anatomy* (1957).

FRED EARL BOYERS, D.D.S., B.S., *Assistant Professor* (part-time) *of Prosthodontics I* (1958).

HAROLD HENRY BOYERS, D.D.S., *Assistant Professor* (part-time) *of Operative Dentistry* (1958).

EMIL LESLIE BRADLEY, A.B., M.A., *Instructor in Mining Extension* (1945).

MILDRED MARIE CECELIA PETERS BRAIN, A.B., *Chief Audio Visual Aids Librarian* (1958).

JAMES PAUL BRAWNER, A.B., A.M., PH.D., *Professor and Head of English* (1952), 1935.

GEORGE H. BREIDING,* B.S.AGR., *Naturalist, Agricultural Extension Service, Oglebay Park,* Wheeling, W. Va. (1950).

THOMAS JOHN BRENNAN, B.S., M.S., ED.D., *Assistant Professor of Education* (1953), 1941.

ANNA BROCHICK, A.B., M.A., *Instructor in Education; Teacher of Core, University High School* (1938).

MAURICE GRAHAM BROOKS, A.B., M.S., *Professor of Wildlife Management; Forester, Agricultural Experiment Station* (1947), 1923.

WILLIAM MASON BROOKS, B.S., M.S., *Instructor in Horticulture; Horticulturist, Agricultural Experiment Station* (1956). (Resigned July 1, 1958.)

CHRISTOPHER GEORGE BROUZAS, A.B., A.B. IN ED., A.M., PH.D., *Professor and Head of Classics* (1935), 1926.

CLIFFORD WOODROW BROWN, B.S., M.A., *Associate Professor of Music and Education, Head of Music Education* (1956), 1942.

JAMES BROWN, B.S., M.S., *Assistant Sivilculturist, Agricultural Experiment Station* (1957).

LONDO HENDERSON BROWN, A.B., LL.B., LL.M., *Professor of Law* (1955), 1950.

ROBERT NATHAN BROWN, A.B., *Assistant Professor of Physical Education; Director of Intercollegiate Athletics* (1954), 1950.

SARA ANN BROWN, B.S., M.S., PH.D., *Professor of Home Economics Education* (1955), 1946.

STANLEY COOPER BROWNING, B.S.M.E., *Instructor in Mechanics* (1957).

RANDALL LEE BROYLES, B.S., *Teacher of Social Studies, University High School* (1958).

ARTHUR BRUCKNER, II, B.I.E., *Assistant Professor of Industrial Engineering* (1957), 1955. (Resigned September 1, 1958.)

KENNETH PIERPONT BRUNDAGE,* B.S., M.S., *Extension Farm Management Specialist, Agricultural Extension Service* (1954).

ALLEN ROY BRYANT, B.S., M.S., *Instructor in Education, Teacher of Vocational Agriculture, University High School* (1956).

BILLIE LINDELL BRYANT, *Administrative Assistant, Air Science* (1955). (Resigned June 30, 1958.)

JOHN ALLISON BUCHANAN, B.S., *Instructor in Economics* (1957).

EMIL BUDWAY, M/SGT., *Supply Sergeant, Military Science and Tactics* (1955). (Resigned June 30, 1958.)

JERRY CAMERON BURCHINAL, B.S.C.E., M.S.C.E., *Associate Professor of Civil Engineering* (1957), 1946.

ROBERT BARKER BURROWS, A.B., M.A., *Assistant Professor of Speech* (1948).

MARY CATHERINE BUSWELL, B.A., M.A., *Instructor in English* (1948), 1947.

RUSSELL CLARKE BUTLER, B.S.AGR., M.S., PH.D., *Professor and Head of Agricultural Education; Professor of Education* (1956), 1944.

RICHARD EDWARD CADY, B.S., M.S., *Instructor in Mathematics* (1958), 1956.

JAMES MORTON CALLAHAN, PH.D., *Professor Emeritus of History and Political Science* (1940), 1902.

ANN CAMPBELL, *Laboratory Technician* (1956).

CLYDE DEL CAMPBELL, B.S., A.B., M.S., *Assistant in Agricultural Biochemistry; Agricultural Experiment Station* (1956), 1955. (Resigned July 1, 1958.)

GEORGE GROSS CAMPBELL, JR., B.S.E.M., *Petroleum Research Engineer, Engineering Experiment Station* (1956),

THOMAS C. CAMPBELL, JR., A.B., M.A., PH.D., *Professor of Economics* (1958), 1948.

NATHAN ROBERT CARB, JR., B.A., M.A., *Instructor in English* (1956).

WILLIAM JAMES CANADY, B.S., M.S., PH.D., *Assistant Professor of Biochemistry* (1958).

William John Carl, *Instructor Emeritus in Foundry Practices and Pipe Fitting* (1945), 1920.

George A. Carleton, Major, B.C.E., *Associate Professor of Military Science and Tactics* (1955).

Leo Carlin, A.B., LL.B., *Professor Emeritus of Law* (1955), 1916.

Lorna Doone Carlin, A.B., M.S., *Instructor in Mathematics* (1955), 1943.

Frank Anthony Carone, B.A., M.D., *Physician* (part-time), *University Health Service; Instructor* (part-time) *in Pathology* (1955).

James Franklin Carruth, B.S., M.S., Ph.D., *Associate Professor of Psychology* (1957), 1953.

Wincie Ann Carruth, B.S., M.S., Ph.D., *Professor and Head of Women's Physical Education* (1957).

Maria Hilliard Cartledge, A.B., *Technician in Agronomy* (1954), 1952.

John Anthony Caruso, A.B., M.A., Ph.D., *Assistant Professor of History, University Extension Service* (1950), 1946.

Michael A. Caruso, B.S., *Teacher of Chemistry, University High School* (1956).

Kenneth Llewellyn Carvell, B.A., M.F., D.F., *Associate Professor of Silviculture; Associate Silviculturist, Agricultural Experiment Station* (1956).

Lyle F. Cassell, B.S., *Instructor and Research Assistant in Poultry Husbandry* (1958).

Carl Henry Cather, B.S.M.E., M.S.M.E., *Professor and Head of Mechanics and Engineer of Mechanics, Engineering Experiment Station* (1948), 1916.

Harold Malcolm Cather, B.S.M.E., M.S.M.E., M.E., *Professor and Head of Mechanical Engineering and Mechnical Engineer, Engineering Experiment Station* (1945), 1919.

Jean Cazemajou, Licence es Lettres, Diplome D'Etudes Superieures, Certificat D'Aptitude, Agregation D'Anglais, *Instructor in Romance Languages* (1957). (Resigned May 30, 1958.)

William Lee Chambers, B.S.C.E., *Instructor in Civil Engineering* (1957).

Ann McVea Chambliss, A.B., *Instructor in English* (1958).

William Orel Champney, B.S., M.S., *Assistant Agricultural Economist, Agricultural Experiment Station* (1958).

Simon B. Chandler, A.B., A.M., M.D., *Professor Emeritus of Gross and Neuroanatomy* (1957), 1935.

Louis Watson Chappell, A.B., A.M., *Associate Professor* (Retired) *of English* (1952), 1923.

William Henry Childs, B.S., M.S., Ph.D., *Professor of Horticulture; Horticulturist, Agricultural Experiment Station* (1953), 1931.

Oliver Perry Chitwood, LL.B., Ph.D., *Professor Emeritus of History* (1946), 1907.

Wallace Wayne Christensen, B.S.F., M.F., Ph.D., *Associate Professor of Forest Economics; Associate Forest Economist, Agricultural Experiment Station* (1958), 1956.

Thomas Baird Clark, B.S.Agr., M.S., *Associate Poultry Husbandman, Agricultural Experiment Station* (1943), 1927.

James Harris Clarke, B.S., M.S., *Associate Professor of Agricultural Economics; Associate Agricultural Economist, Agricultural Experiment Station* (1947), 1939.

John D. Clarkson, B.F.A., M.A., *Associate Professor of Art* (1951), 1948.

Roy B. Clarkson, B.S., M.S., *Instructor in Biology* (1956).

Jesse Franklin Clovis, B.S.F., M.S., Ph.D., *Assistant Professor of Biology* (1957).

Charles Nelson Cochran, A.B., M.S., *Assistant Professor of Mathematics* (1957), 1951.

Billy Lee Coffindaffer,* B.S., M.S., *Assistant State 4-H Club Leader* (1956), 1950.

Gilbert Cohen, M/Sgt., *Supply Sergeant, Military Science and Tactics* (1957).

Margaret Buchanon Cole, A.B., Ph.D., *Associate Professor Emeritus of Education* (1951), 1939.

George Henry Colebank, A.B., M.A., *Associate Professor Emeritus of Education* (1950), 1939.

Raymond W. Coleman, B.B.A., M.B.A., Ph.D., *Dean, College of Commerce; Professor of Economics and Management* (1952), 1948.

Armand Rene Collett, A.B., Ph.D., *Dean, College of Arts and Sciences; Professor of Chemistry* (1951), 1924.

Henry D'Alton Collins, B.S., LL.B., LL.M., *Professor of Law* (1956), 1950.

Clyde Lemuel Colson, A.B., LL.B., S.J.D., *Dean and Professor of Law* (1956), 1935. (*Acting President of the University*, August 26, 1958 to January 31, 1959).

Robert Cameron Colwell, A.B., M.A., Ph.D., D.Sc., *Professor Emeritus of Physics* (1954), 1918.

Frank Girard Comerford, B.S., *Instructor in Engineering, University Extension* (1953).

Edward Lyon Compere, Jr., B.S., M.S., Ph.D., *Assistant Professor of Chemistry* (1958).
William Howard Conkle,* B.S., M.S., *Extension Specialist in Vegetable Gardening, Agricultural Extension Service* (1955), 1941. (On leave of absence, 1958-59.)
George Edward Constable, B.S., *Arboretum Assistant* (1956).
Charles Caruthers Cook, B.S.M.E., *Instructor in Industrial Engineering* (1957).
Kermit Alderson Cook, A.B., M.A., Ph.D., *Associate Professor of Education* (1947), 1935.
Ruth Elizabeth Cook, B.S.H.Ec., M.S.H.Ec., *Instructor in Education and Teacher of Home Economics, University High School* (1951).
Jean McQuiston Coover, A.B., M.A., *Instructor in Mathematics* (1956).
Lucy May Coplin, A.M., *Instructor Emeritus in Education* (1948), 1925.
Walter Lee Coplin, Mus.B., M.Mus., *Assistant Professor of Music* (1952), 1947.
Earl Lemley Core, Ph.D., D.Sc., *Professor and Head of Biology* (1948), 1928.
Mary Jane Corliss, B.S., M.S., *Instructor in Home Economics* (1958).
Earl Eugene Corum, B.S., M.S., *Instructor in Physical Education and End Football Coach* (1950).
Elias Nick Costianes, A.B., D.D.S., *Assistant Professor of Dental Anatomy* (1958), 1957.
William Raymond Coulter, A.B., M.A., *Instructor in English* (1955). (Resigned May 31, 1958.)
Hazel Ruth Coutts, B.A., M.A., *Instructor* (Retired) *in Secretarial Studies* (1957), 1943.
George Newell Cowden, LL.B., *Assistant Professor of Air Science* (1957). (Resigned June 1, 1958.)
Stanley Riley Cox, A.B., LL.B., *Lecturer in Business Law* (1956).
Russell Joseph Crane, B.S., M.S., *Instructor in Physical Education; Line Football Coach* (1952).
Benjamin Franklin Creech,* B.S.Agr., *Animal Husbandman* (Retired), *Agricultural Extension Service* (1955), 1917.
David Raymond Creel,* *Photographer, Agricultural Experiment Station; Assistant Editor, Agricultural Extension Service* (1947).
John Reginald Cresswell, B.A., Ph.D., *Professor of Philosophy* (1949), 1929.
Howard Oliver Croasman, B.S., *Financial Secretary, Medical Center* (1957).
Stephen Fuller Crocker, A.B., A.M., *Professor of English and Chairman of Integrated Studies* (1948), 1931.
William Edward Crockett, B.S.Ch.E., *Instructor in Chemical Engineering* (1957).
Eugene Arthur Croenne, M/Sgt., *Instructor in Military Science and Tactics* (1955).
Edwin William Crooks, Jr., B.S., M.A., M.B.A., *Associate Professor of Marketing* (1958), 1954.
Orrin Hartshorn Cross, A.B., M.S., Ph.D., *Associate Professor of Psychology* (1957), 1951.
Charles William Crum, B.S., *Instructor in Agronomy and Genetics; Assistant in Agronomy, Agricultural Experiment Station* (1957).
Allen B. Cunningham, A.B., M.S., Ph.D., *Associate Professor of Mathematics* (1952), 1935.
Cornelius Jett Cunningham, B.S.Agr., *Associate Animal Husbandman in Charge of Reymann Memorial Experimental Farms* (P.O., Wardensville), *Agricultural Experiment Station* (1943).
Glennis Hudkins Cunningham, A.B., M.A., *Instructor in Education* (1956).
Gloria Jeanne Cunningham, B.S., *Teacher of Commerce, University High School* (1958).
Earl Moss Curry, B.S., M.Ret., *Instructor in Commerce* (1957). (Resigned May 31, 1958.)
Quin Fischer Curtis, A.B., A.M., Ph.D., *Head and Professor of Philosophy and Psychology* (1949), 1941.
Andrew Jackson Dadisman, B.S.A., M.S., Ph.D., *Professor Emeritus of Economics* (1957), 1914.
Stanley Everett Dadisman, A.B., LL.B., *Professor of Law* (1957).
Prabin Chandra Datta, B.Sc., M.S., *Instructor in Agronomy and Genetics; Assistant in Agronomy, Agricultural Experiment Station* (1957). (Resigned May 31, 1958.)
Louann Davidson, *Technician in Plant Pathology* (1957). (Resigned April 30, 1958.)
Carolyn Adelle Wood Davis, B.S., M.A., *Instructor in Home Economics* (1956). (Resigned May 31, 1958.)
Claude Jefferson Davis, B.A., M.A., Ph.D., *Research Assistant in Bureau for Government Research* (1957).

HANNIBAL ALBERT DAVIS, A.B., A.M., PH.D., *Professor and Head of Mathematics* (1947), 1921.

JOHN BOATMAN DAVIS, B.S., D.D.S., *Professor and Head of Prosthodontics I* (1957).

LEONARD MCCUTCHAN DAVIS, A.B., M.A., PH.D., *Assistant Professor of Speech* (1958), 1949.

PATRICIA RUTH DAVIS, B.S., *Assistant Director, Mountainlair* (1957).

RAY JAY DAVIS, B.A., LL.B., LL.M., *Assistant Professor of Law* (1956). (Resigned May 31, 1958.)

ROLAND PARKER DAVIS, B.S.C.E., M.C.E., PH.D., *Dean Emeritus and Professor Emeritus of Structural Engineering, College of Engineering; Structural Engineer Emeritus, Engineering Experiment Station* (1955), 1911.

ORETA HOLBERT DAWSON, A.B., A.M., *Instructor in English* (1945).

WARREN EDGELL DEAN, B.S., M.S., *Instructor in Chemistry* (1958).

ROBERT LEE DECKER, B.A., M.A., PH.D., *Assistant Professor of Psychology* (1957), 1955.

CHARLES LEROY DELANEY, *Instructor in Industrial Engineering* (1950), 1946.

CARL DENNLER, JR., B.S., M.A., *Assistant Professor of Accounting* (1957).

WALTER HOWARD DICKERSON, B.S.C.E., B.S., M.S., *Professor of Agricultural Engineering; Agricultural Engineer, Agricultural Experiment Station* (1953).

EDMUND CHARLES DICKINSON, A.B., J.D., *Professor Emeritus of Law* (1952), 1921.

MONTELLE DIETRICH, B.S., M.S., *Assistant Professor of Home Economics* (1941), 1929.

ROBERT EUGENE DILL, B.S., *Forest Superintendent, Agricultural Experiment Station* (1958).

STUART PARKER DILLON, M/SGT., *Instructor in Military Science and Tactics* (1955), 1950.

GILDEON STANHOPE DODDS, B.A., M.A., PH.D., *Professor Emeritus of Histology and Embryology* (1951), 1918.

WILBUR CHARLES DOHRMAN, B.S., M.A., *Instructor in Education* (1956). (Resigned May 31, 1958.)

ALAN CHASE DONALDSON, B.A., M.S., *Assistant Professor of Geology* (1957).

CHARLES GILBERT DONALDSON, B.S., *Assistant Football Coach* (1956).

ROBERT TUCKER DONLEY, A.B., LL.B., *Professor* (part-time) *of Law* (1947), 1929.

CARL KESTER DORSEY, A.B., M.S., PH.D., *Professor of Entomology; Entomologist, Agricultural Experiment Station* (1951), 1947.

CARLETON PAUL DORSEY,* B.S., M.S., *State 4-H Club Leader, Agricultural Extension Service* (1952), 1927.

CATHERINE MCKELVEY DORSEY, B.A., M.A., *Instructor in Education and Teacher of Mathematics, University High School* (1948), 1943.

ELIZABETH MCNEILL DORSEY, B.S.H.E., M.H.E., *Instructor* (part-time) *in Home Economics* (1956).

HAROLD A. DOVE, *Animal Caretaker, Medical Center* (1955).

DAVID WILLIAM DOWDELL, A.B., A.M., *Instructor in English* (1947), 1946.

ELIZABETH ELLEN DOWNEY, B.S. IN ED., B.S. IN L.S., *Chief Acquisition Librarian* (1955), 1949.

LESLIE DOZSA, D.V.M., *Assistant Professor of Animal Pathology; Assistant Animal Pathologist, Agricultural Experiment Station* (1957).

BARBARA ADELINE DRAINER, B.A., M.A., *Assistant Professor of Art* (1957), 1952.

JOHN WILLIAM DRAPER, B.A., M.A., PH.D., *Professor of English* (1929).

EVERETTE CHARLES DUBBE, B.S.E.E., *Assistant Professor of Electrical Engineering* (1949), 1947.

ROBERT STANDISH DUNBAR, JR., B.S., M.S., PH.D., *Associate Statistician, Agricultural Experiment Station* (1957), 1952.

RAY O. DUNCAN, LL.B., A.M., ED.M., ED.D., *Dean, School of Physical Education and Athletics* (1952).

RICHARD EDWARD DUNCAN, B.M., M.A., PH.D., *Professor of Music; Dean of the School of Music* (1958).

ROBERT BARCLAY DUSTMAN, PH.D., *Dean of the Graduate School* (1954), 1924.

ANN CULLEY DYE, B.S.H.E., *Dietitian, Woman's Hall* (1937).

ARTHUR PINGREE DYE, B.S., M.S., *Assistant Professor of Horticulture; Assistant Horticulturist, Agricultural Experiment Station* (1940), 1923.

JAMES E. DYSON, JR., B.A., M.S., PH.D., *Assistant Professor of Microbiology* (1958).

JASON CLARK EASTON, B.A., M.A., PH.D., *Professor of History* (1949), 1939.

JOY BROMBERG EASTON, B.S., M.S., *Instructor in Mathematics* (1955), 1948.

ROBERT HOWARD EDELS, B.S.E.M., *Petroleum Research Engineer, Engineering Experiment Station* (1952), 1950.

Harold C. Edelston, A.B., M.S., *Lecturer in Social Work* (1957).
William August Ehrgott, B.S., M.D., *Instructor* (part-time) *in Pathology* (1949).
John J. Eichenmuller, Jr., A.B., M.S., *Assistant in Plant Pathology, Agricultural Experiment Station* (1958).
Eugene Randall Elkins, A.B., *Research Assistant, Bureau for Government Research* (1952).
John Carlisle Ellers, B.S., *Instructor in Chemistry* (1957).
Edward Sumner Elliott, A.B., M.S., Ph.D., *Assistant Professor of Plant Pathology; Assistant Plant Pathologist, Agricultural Experiment Station* (1953).
Joy Ann Kirtley Elliott,* B.S., *Assistant Extension Editor, Agricultural Extension Service* (1956).
Kendall Clark Elliott, B.S., *Instructor in Agricultural Engineering; Assistant in Agricultural Engineering, Agricultural Experiment Station* (1953).
Joan Marie Ellis, A.B., A.M., *Assistant Curator, West Virginia Collection* (1957).
Helen Ellison, A.B., C.S.W., M.S.S.W., *Assistant Professor of Social Work* (1957), 1954. (Resigned September 1, 1958.)
Tennis Ellison, S/Sgt., *Administrative Assistant and Instructor in Air Science* (1956).
Joseph Clarence Emch,* B.S., M.S., *Extension Animal Husbandman, Agricultural Extension Service* (1957), 1947.
Roy Eugene Emerson, B.S., M.S., *Associate Professor of Agricultural Engineering; Associate Agricultural Engineer, Agricultural Experiment Station* (1957), 1946.
Dorothy Catherine Engle, A.B., M.A., *Teacher of English, University High School; Instructor in Education* (1955).
Clyde Neville English, B.S., M.S.M., A.A.G.O., D.S.M., *Associate Professor of Music* (1953), 1945.
Grace Metzger English, B.A., *Reservation Clerk, Residence Halls* (1956).
Thomas Edson Ennis, A.B., M.A., Ph.D., *Professor of History* (1946), 1930.
Homer Clark Evans, B.S., M.S., Ph.D., *Associate Professor of Agricultural Economics; Associate Agricultural Economist, Agricultural Experiment Station* (1956), 1949.
Harold Vincent Fairbanks, B.S., M.S., *Professor of Metallurgical Engineering; Metallurgical Engineer, Engineering Experiment Station* (1955), 1947. (On leave of absence 1958-59.)
Stanley Farr, B.S.Ch.E., M.S., *Instructor in Physics* (1953), 1947.
Marja Steadman Fear, M.A., *Associate Professor Emeritus of Speech* (1953), 1920.
Eston Kermit Feaster, A.B., M.A., Ed.D., *Dean, College of Education; Professor of Education* (1953), 1949.
Frank John Federovitch, M.A., *Instructor in Physical Education and Assistant Freshman Football Coach* (1958).
Francis Pierce Fisher, A.B., *Lecturer in School of Journalism* (1954).
Betty G. Fishman, B.A., M.S., *Lecturer in Economics* (1957), 1948.
Leo Fishman, B.A., M.A., Ph.D., *Professor of Economics* (1952), 1947.
Homer Milton Fizer, B.S., M.S., *Instructor in Education; Teacher and Coach, University High School* (1947), 1940.
Mildred Evalena Fizer,* A.B., *State Girls' Club Agent, Agricultural Extension Service* (1953), 1946.
John J. Flasher, A.B., M.A., *Instructor in Romance Languages* (1956).
Virgil Henry Flesher, B.S., M.S., *Assistant Professor of Agricultural Engineering; Assistant Agricultural Engineer, Agricultural Experiment Station* (1957).
Joe Edward Ford, A.B., M.A., *Instructor in Speech* (1953).
O. Rex Ford, Ph.D., *Professor of Physics* (1943), 1925.
William Robert Fortney, B.S., M.S., *Assistant Professor of Horticulture; Assistant Horticulturist, Agricultural Experiment Station* (1956).
Ruel Elton Foster, A.B., M.A., Ph.D., *Professor of English* (1957), 1942.
Alfred J. Fountaine, *Administrative Assistant in Military Science and Tactics* (1957). (Resigned December 31, 1957.)
Donald Richard Fowler, B.S., *Research Assistant in Pharmacology* (1958).
Lawrence William Fox, B.A., M.A., *Instructor in Psychology* (1955). (Resigned September 1, 1958.)
Lavina Mary Franck, B.S., M.S., *Assistant Professor of Home Economics* (1957).
Carl Maynard Frasure, B.A., M.A., Ph.D., *Professor and Head of Political Science; Director of Bureau for Government Research* (1953), 1927.
Ben Frank Freedman, B.A., M.A., *Instructor in Art* (1957).
Emile George Frere, B.S., M.A., *Instructor in Romance Languages* (1949), 1947.

RAY JEROME FRIANT,* B.A., *Extension Agronomist, Agricultural Extension Service* (1929), 1922.
HARRY MARION FRIDLEY, B.S., M.S., PH.D., *Professor and Head of Geology* (1951), 1928.
ALDERSON F. FRY, B.S., M.A., B.L.S., *Librarian, Medical Center* (1954).
THOMAS R. FULTON, A.B., A.M., *Professor and Head of Social Work* (1953), 1946.
JACK WILLIAM FUTRELL, B.A., M.A., *Instructor in English* (1955).
FRANCIS X. GABRIEL, CAPTAIN, U.S. ARMY, *Associate Professor of Military Science and Tactics* (1957).
PATRICK WARD GAINER, M.A., PH.D., *Professor of English* (1957), 1946.
JAMES RONALD GAINSFORD, B.S., *Swimming Coach and Instructor in Physical Education* (1955). (Resigned June 1, 1958.)
MANNON ELIHU GALLEGLY, JR., B.S.A., M.S., PH.D., *Associate Professor of Plant Pathology; Associate Plant Pathologist, Agricultural Experiment Station* (1955), 1949.
ALFRED F. GALLI, B.S.CH.E., M.S.CH.E., *Assistant Professor of Chemical Engineering* (1956), 1946.
SIDNEY LONGMAN GALPIN, PH.D., *Professor Emeritus of Hydrology; Hydrologist Emeritus, Agricultural Experiment Station* (1938), 1927.
EDWIN CHARLES GANGLOFF, B.A., M.S., PH.D., *Assistant Professor of Biochemistry* (1955).
AVERY FREEMAN GASKINS, A.B., M.A., *Instructor in English* (1958), 1954.
THOMAS WILLIAM GAVETT, B.B.A., M.S., PH.D., *Assistant Professor of Economics; Director, Institute of Industrial Relations* (1957).
FREDERICK LINCK GEILER, B.SC., M.SC., *Professor of Pharmacy* (1950), 1928.
HASAN TAHSIN GENCSOY, B.S.M.E., M.S.M.E., *Assistant Professor of Mechanical Engineering* (1957), 1949.
CLARA FAY GEORGE, B.S., *Pharmacist, Health Center* (1951).
ELEANOR ELIZABETH GEORGE, A.B., *Instructor* (part-time) *in Speech* (1956). (Resigned September 1, 1958.)
JOHN EVERETT GERTNER, M.A., *Psychometrist, Philosophy and Psychology* (1958).
HAROLD ALLAN GIBBARD, B.A., M.A., PH.D., *Professor and Head of Sociology* (1948).
GENE GIBSON, B.B.A., *Assistant Football Coach* (1958).
JOHN ARTHUR GIBSON, JR., B.S., PH.D., *Professor of Chemistry* (1952), 1926.
BERNARD GILBERT, B.S., M.S., *Instructor in Mathematics* (1958).
FRANCES COOKE GILCHRIST, A.B., M.A., *Instructor in English* (1958).
THOMAS MARY GILFOIL, B.S., M.S., PH.D., *Instructor in Physiology* (1958).
ROYAL CLARENCE GILKEY, A.B., A.M., PH.D., *Assistant Professor of Political Science* (1957).
WILLIAM HARRY GILLESPIE, B.S., M.S., *Instructor in Geology* (1958).
CHESLA GILMORE, *Laboratory Technician, Health Center* (1957).
MARY ANN GINGRICH, CERTIFICATE, *Director, Women's Hall North* (1955).
RUSSELL HENDERSON GIST,* B.S.AGR., *State Agent, Agricultural Extension Service* (1933), 1924. (Retired April 30, 1958.)
MARY JANE GLASSCOCK, B.M., M.M., *Instructor* (part-time) *in Education* (1948), 1943.
JOSEPH CLAY GLUCK, B.A., B.D., *Director of Student Affairs* (1948), 1943.
BERNETTIE P. GNEGY, *Nurse, Infirmary* (1957).
WILLIAM HOWARD GODFREY, A.B., M.A., *Instructor in Education and Teacher of Biology, University High School* (1950). (On Military Leave.)
ERWIN GOLDBERG, B.A., M.S., PH.D., *Assistant Professor of Biology* (1958).
ELIZABETH J. GOODALL, M.A., *Associate Professor of History, University Extension Service* (1945).
CLAUDE ARWE GOODE, B.S., *Instructor in Mining Extension* (1956).
WILLIAM RUSSELL GOODGE, B.S., M.A., PH.D., *Instructor in Gross and Neurological Anatomy* (1957).
ALLEN WRIGHT GOODSPEED, B.S., M.F., *Professor of Forest Management; Forester, Agricultural Experiment Station* (1959).
EDWIN GOULD, B.S.AGR., *Entomologist in Charge of University Experiment Farm* (P.O., Kearneysville), *Agricultural Experiment Station* (1946), 1929.
HENRY WADSWORTH GOULD, B.A., M.A., *Instructor in Mathematics* (1958).
DANNY JOE GOULDING, A.B., M.A., *Instructor in Speech* (1957).
ROBERT JOHN GRAHAM, S/SGT., *Supply Specialist, Air Science* (1954). (Resigned April 12, 1958.)
THOMAS DAVIS GRAY,* B.S., *Extension Landscape Architect, Agricultural Extension Service* (1943), 1919.

Virgil R. Gray, Jr., B.S., M.A., *Instructor in Speech* (1956). (Resigned September 1, 1958.)

Evelyn Alice Nicolai Graybeal, B.S., M.S., *Junior Reference Librarian, Library* (1957).

Jack Daniel Graybeal, B.S., M.S., Ph.D., *Assistant Professor of Chemistry* (1957).

Robert Judson Greene, B.S., M.A., *Assistant Professor of Speech* (1955), 1951. (Resigned September 1, 1958.)

Lloyd Raymond Gribble, B.S., M.S., Ph.D., *Assistant Dean, College of Arts and Sciences; Professor of Zoology* (1954), 1929.

Grace Margaret Griffin, M.A., *Professor Emeritus of Physical Education* (1957), 1923.

Stanley Burton Gross, A.B., M.S., *Assistant in Agricultural Biochemistry, Agricultural Experiment Station* (1956). (Resigned September 1, 1958.)

John Behny Grumbein, B.S.M.E., M.M.E., *Professor Emeritus of Power Engineering* (1945), 1903.

David Forbes Guinn, B.S., M.S., *Instructor in Physics* (1956). (Resigned August 15, 1958.)

Joel Alderson Gwinn, B.S.Ed., M.A., M.S., *Instructor* (part-time) *in Physics* (1958).

Albert C. Gwynne, B.S., M.S., *Head Athletic Trainer, Intercollegiate Athletics; Instructor in Physical Education* (1948), 1933.

Charles Adrian Haley, *Instructor in Military Science* (1958).

Arthur A. Hall, B.S.M.E., *Professor Emeritus of Electrical Engineering* (1951), 1916.

George Arthur Hall, Jr., B.S., Ph.D., *Associate Professor of Chemistry* (1956), 1950.

James Lester Hall, A.B., M.S., Ph.D., *Professor of Chemistry* (1955), 1946.

John Edgar Hall, B.S., M.S., Ph.D., *Instructor in Microbiology* (1958).

Judith Chatfield Hall, B.S., M.S., *Instructor in Mathematics* (1958).

Lillian Bailey Hall, *Dietitian, Women's Hall* (1952).

Francis Gerald Ham, A.B., M.A., *Associate Curator, West Virginia Collection, Library* (1958).

James Francis Hamilton, B.S.M.E., M.M.E., *Associate Professor of Mechanical Engineering* (1956), 1955.

Edwin Walter Hanczaryk, A.B., M.A., Ph.D., *Associate Professor of Economics* (1951). (Resigned February 13, 1958.)

Roscoe Elton Hanna, Jr., B.S., *Supervisor of Industrial Extension; Assistant Director of Fire Service Extension* (1949), 1944.

Edward Stephenson Harahan, B.S., M.S., *Instructor in Chemistry* (1957). (Resigned May 31, 1958.)

Ellen Margrethe Hansen, M.S., *Assistant in Textiles Research* (1956). (Resigned May 31, 1958.)

Harry Louis Hansen, B.S., Ph.D., *Assistant Professor of Entomology; Assistant Entomologist, Agricultural Experiment Station* (1954). (Resigned July 31, 1958.)

Clara Reed Hardesty, B.M., *Social Director, Terrace Hall* (1952), 1945.

Evan Merrill Hardin, *Chief Engineer, Medical Center Building and Grounds* (1956).

Nestor Carl Hardin, Jr.,* B.S., *Acting Extension Vegetable Gardening Specialist, Agricultural Extension Service* (1958).

Thomas Porter Hardman, M.A., J.D., *Professor Emeritus of Law* (1957), 1913.

John Barker Harley, B.S., M.D., *Assistant Professor of Pathology* (1958), 1955.

Kenneth R. Harper, B.S., M.S., *Teacher of English, University High School* (1958), 1956.

William Knox Harrell, B.S., M.S., Ph.D., *Assistant Professor of Microbiology* (1955).

Stephen Harrick, A.B., M.A., *Associate Professor of Physcial Education; Wrestling and Baseball Coach* (1947), 1924.

Ernest Keith Harris, S/Sgt., *Supply Sergeant, Air Science* (1958).

Stanley Robert Harris, A.B., M.S., *Assistant Registrar* (1953).

Helen Kellar Harrison, B.S., M.A., *Assistant Professor of Music* (1954), 1952. (Resigned September 1, 1958.)

Charles Henry Hartley,* B.S., *State Club Leader* (Retired), *Agricultural Extension Service* (1933), 1914.

Harvey H. Hartwig, Major, U.S. Army, B.S., *Associate Professor of Military Science and Tactics* (1957).

Clarence Harvey, Jr., M.A., *Instructor in Education; Teacher of Core, University High School* (1957).

John Jackson Harvey,* M.S., *Rural Organization Specialist, Agricultural Extension Service* (1956), 1953.

Ted Robert Hash,* B.S., *Extension Poultryman, Agricultural Extension Service* (1947), 1937.

Blevyn Gladys Hathcock, B.A., M.A., *Instructor in English* (1956). (Resigned May 31, 1958.)

Archie Oscar Haugland, B.M.E., B.M., M.M., D.M.A., *Associate Professor of Music and Head of Theory and Composition* (1957), 1949.

Elliott Gordon Hawethorne, M/Sgt., *Instructor in Military Science and Tactics* (1953), 1952. (Resigned December 31, 1957).

Fabry Livingstone Hawk, M.T., *Assistant Director, Student Health Laboratory* (1956), 1935.

Maryelsie Hawkins, B.A., M.A., *Instructor in Mathematics* (1954).

Donald Edward Hayhurst, A.B., M.Litt., Ph.D., *Assistant Professor of Political Science* (1956).

Virginia Jean Hayhurst, B.S.P.E., M.S.P.E., *Instructor in Education; Teacher of Physical Education, University High School* (1949), 1947.

J. Lester Hayman, Ph.C., B.S., M.S., *Professor of Pharmacy; Dean, School of Pharmacy* (1936), 1919.

Milton Tidd Heald, A.B., M.A., Ph.D., *Associate Professor of Geology* (1955), 1948.

Lois Vivaneen Heflin, A.B., M.S., *Instructor in Mathematics* (1956).

Clarence Jacob Hein, A.B., M.A., Ph.D., *Visiting Professor of Political Science* (1958).

J. O. Heishman, D.V.S., *Associate Animal Pathologist, Reymann Memorial Farms* (Wardensville), *Agricultural Experiment Station* (1949).

Edgar Frank Heiskell, Jr., A.B., B.S., M.D., *Assistant Physician* (part-time), *University Health Service; Instructor in Surgery* (1957), 1948.

Manila Iloilo Heldreth, *Dietitian, Terrace Hall* (1956).

Kenneth Richard Hemstead, B.A., M.A., *Instructor in English* (1955). (Resigned May 31, 1958.)

Harry Oram Henderson, B.S., M.S., Ph.D., *Professor of Dairy Husbandry; Dairy Husman, Agricultural Experiment Station* (1928), 1919.

Linnea Elizabeth Henderson, A.B., B.S.N., M.A., *Assistant Professor of Nursing Education* (1957), 1956.

Dora Fergusson Hennen, A.B., M.S., *Instructor in Mathematics* (1958), 1933.

Dreama Skaggs Hennessee,* B.S.H.E., *Assistant State Leader, Home Demonstration Work, Agricultural Extension Service* (1957), 1955.

James H. Henning, Ph.D., *Professor and Head of Speech* (1945).

Lyle E. Herod, A.B., M.S., *Assistant Registrar, Medical Center* (1956), 1947.

Francisco Herrera y Sanchez, A.B., A.M., *Assistant Professor of Romance Languages* (1950), 1946.

Irwin Lawrence Herrnstadt, B.A., *Assistant Professor of Economics* (1958).

John William Hesen, A.B., M.S., B.S., M.D., *Physician, University Health Service* (1957).

James Blake Hickman, B.S., M.S., Ph.D., *Associate Professor of Chemistry* (1956), 1946.

James Thomas Hicks, B.S., A.B., M.S., Ph.D., M.D., *Physician, University Health Service* (1957), 1950. (Resigned July 31, 1958.)

John Lewis Hicks, Jr., A.B., A.M., *Instructor in English* (1949).

A. Curtis Higginbotham, B.S., Ph.D., *Associate Professor of Microanatomy and Organology* (1957).

Frances Heffrin Higginbotham, *Research Assistant in Microanatomy and Organology* (1957).

Hubert Hill, B.S., M.S., *Professor Emeritus of Chemistry* (1951), 1911.

Lawrence Benjamin Hill, A.B., A.M., Ph.D., *Professor Emeritus of Education* (1957), 1918.

Claude Bernard Hillis, B.S., M.S., *Teacher of Physical Education, University High School* (1958).

Richard B. Hilts, B.M., M.M., *Assistant Professor of Music* (1956).

Evelyn Pratt Hite, A.B., *Cataloguer, Library* (1945), 1922. (Deceased August 21, 1958.)

Bohdan Taras Hnatiuk, D.Eng'g., B.S.Educ., *Professor of Aeronautical Engineering* (1957).

Milford L. Hobbs, M.D., *Professor and Head of Pathology and Clinical Pathology* (1947)

Charles Edward Hockenberry, B.S., M.S., *Assistant to the Director of Intercollegiate Athletics* (1952), 1947.

Willard Wellington Hodge, M.A., *Professor Emeritus of Chemical Engineering* (1945), 1921.

Arthur Newsome Hofstetter, A.M., M.A., Ed.D., *Associate Professor of Education* (1957), 1955.

Margaret Price Hoke, A.B., A.M., *Instructor in Integrated Studies* (1955).

William Wells Hokman, M.A., M.S., *Instructor in Mathematics* (1956).

Ruth Wheeler Holden, A.M., *Instructor in English* (1943).

Davene Kirby Holroyd, B.S., *Research Assistant in Pharmacology* (1958).

Frederick John Holter, A.B., M.A., Ph.D., *Professor of Physical Education* (1948), 1947.

Donald James Horvath, B.S., M.S., Ph.D., *Assistant Professor of Animal Husbandry; Assistant Animal Husbandman, Agricultural Experiment Station* (1957).

Agnes B. Hovee, B.A., M.A., *Director of Residence Halls* (1956), 1950.

John Weston Howard, A.B., A.M., *Instructor in English* (1950).

Herbert Henry Howenstein, *Draftsman, Agricultural Engineering, Agricultural Experiment Station* (1956).

Earl Hudelson, A.B., M.A., Ph.D., *Professor of Education* (1945), 1920.

Donald Thedron Huffman, A.M., A.B., *Instructor in German* (1956).

Kathryn Huffman, A.B., M.S., *Assistant Chemist* (part-time), *Engineering Experiment Station* (1944).

Dolores Hughes, A.B., M.A., *Instructor in Psychology* (1958).

George Louis Humphrey, A.B., M.S., Ph.D., *Associate Professor of Chemistry* (1957), 1952.

Gertrude Humphreys,* A.B., *State Leader, Home Demonstration Work, Agricultural Extension Service* (1941), 1918.

Mary Alice Hupp, A.B., M.A. in L.S., *Senior Reference Librarian; Instructor* (part-time) *in Library Science* (1956). (Resigned August 19, 1958.)

Beatrice Hurst, A.B., M.A., *Associate Professor of Physical Education* (1951), 1928.

James Franklin Huston, B.A., M.Letters, *Instructor in Marketing* (1956).

Blanche Lucille Hutchinson, B.M., M.M., *Accompanist and Instructor in Physical Education* (1954).

Joe M. Hutchison, Jr., A.B., M.S., *Instructor in Recreation* (1957).

Doris John Huzzy, B.A., M.A., *Instructor in English* (1955).

Harold Marteney Hyre, B.S., M.S., *Associate Professor of Poultry Husbandry; Associate Poultry Husbandman, Agricultural Experiment Station* (1944), 1931.

Lawrence Joseph Intravaia, B.M.Ed., M.M.Ed., *Assistant Professor of Music and Director of Bands* (1958), 1950.

Thomas Stanley Isaack, B.B.S., M.B.A., D.B.A., *Associate Professor of Management* (1955), 1951.

Mary Hale Jackson, *Social Director, Woman's Hall Center* (1954).

Norman D. Jackson, B.S.F., *Instructor in Forest Utilization; Assistant Forester, Agricultural Experiment Station* (1957), 1953.

David Wood Jacobs, A.B., *Director, Bureau of Information; Alumni Secretary* (1938).

Sylvia Rosalie Jacobson, B.S., M.S., *Associate in Psychiatric Social Work* (1956).

Vernon R. James, *Lecturer in Mechanical Composition, School of Journalism* (1953).

Walter H. Jarecke, B.S., M.Ed., Ed.D., *Professor of Education* (1957), 1949.

Peggy Pauline Jarrett, A.B., M.A., *Instructor in Education and Teacher of Core, University High School* (1953). (Resigned September 1, 1958.)

Oleg Jefimenko, B.A., M.A., Ph.D., *Assistant Professor of Physics* (1956).

Everett Milton Jencks, B.Sc., Ph.D., *Assistant Professor of Agronomy; Assistant Agronomist, Agricultural Experiment Station* (1957).

Carl Edward Johnson, B.A., B.S., M.D., *Instructor* (part-time) *in Medicine* (1940).

Gale Ray Johnson, M/Sgt., *Instructor in Military Science* (1956).

Jay Ewers Johnson, Jr., B.S., M.B.A., *Instructor in Accounting* (1956).

Melvin Walter Johnson, Jr., B.S., M.S., Ph.D., *Assistant Professor of Agronomy; Assistant Agronomist, Agricultural Experiment Station* (1956).

Raymond E. Johnson, Captain, U.S. Army, *Associate Professor of Military Science and Tactics* (1956).

Robert Joseph Johnson, M.D., *Professor and Head of Gross and Neurological Anatomy* (1957), 1938.

Robert Lee Johnson, Jr., B.A., M.A., Ph.D., *Assistant Professor of History* (1956), 1954.

Shirley Evangeline Johnson, B.A., M.A., *Instructor in English* (1958).

JOHN HUBERT JOHNSTON, A.B., A.M., *Instructor in English* (1957), 1954.
CLYDE JONES, B.A., M.A., *Instructor in English* (1958).
EDWIN CHANNING JONES, B.S.E.E., M.S.E.E., *Professor and Head of Electrical Engineering; Electrical Engineer, Engineering Experiment Station* (1948), 1925.
EMERSON EDWARD JONES, B.S.I.E., *Instructor* (part-time) *in Industrial Engineering* (1958).
ERNEST LEWIS JONES, A.B., M.A., *Supervisor, IBM Service, Office of the Registrar* (1955).
HELEN STERRETT JONES, B.S., *Executive Director of Y.W.C.A.* (1956), 1926. (Resigned May 31, 1958.)
HUGH H. JONES, CAPTAIN, U. S. ARMY, B.A., *Associate Professor of Military Science and Tactics* (1957).
JAMES ROBERT JONES, B.S.M.E., *Instructor in Mechanical Engineering* (1956). (Resigned September 1, 1958.)
MARY ROSE TAYLOR JONES, B.S., M.S., *Assistant Professor of Home Economics* (1954), 1941.
PAUL RUSSELL JONES, M.Sc., B.Cer.E., *Professor of Ceramic Engineering; Ceramic Engineer, Engineering Experiment Station* (1957), 1947.
GERALD ALVIN JUNG, B.S., M.S., PH.D., *Assistant Professor of Agronomy; Assistant Agronomist, Agricultural Experiment Station* (1958).
LOUISE KEENER, B.A., *Comptroller and Director of Business Affairs* (1954), 1929.
REYNOLDS ROBERT KELEHER, B.S., *Associate Professor of Military Science* (1957).
WARREN GEORGE KELLY, B.S., M.S., *Assistant Professor of Agricultural Education; Assistant Professor of Education* (1958), 1957.
CLAUDE RAY KEMPER,* B.S.AGR., M.S.AGR., *District Agent, Agricultural Extension Service* (1955), 1946.
EDDIE CLIFTON KENNEDY, A.B., A.M., D.ED., *Professor of Education; Director, Student Teaching* (1957), 1953.
JAMES ALBERT KENT, B.S.CH.E., M.S.CH.E., PH.D., *Professor of Chemical Engineering* (1958), 1954.
HAROLD NEELY KERR, A.B., M.LITT., *Assistant Professor of Sociology* (1947), 1946.
PAUL EAKLE KIDD, A.B., M.S., *Research Assistant, Bureau for Government Research* (1957).
HAROLD EDWARD KIDDER, B.S., M.S., PH.D., *Associate Professor of Animal Husbandry; Associate Animal Husbandman, Agricultural Experiment Station* (1957), 1954.
GEORGE SMITH KING, B.S., M.S., *Instructor in Physical Education and Athletics; Assistant Basketball Coach* (1958).
CHARLES WILLIAM KINNAIRD, JR., B.S., M.S., *Instructor in English* (1957). (Resigned May 31, 1958.)
BERNADETTE MARIE KIRBY, A.A., *Technician, University Health Service* (1955).
GLADYS WASMUTH KNAPP,* B.S.H.E., M.S., *Extension Home Management Specialist, Agricultural Extension Service* (1949), 1935.
JOHN OLIVER KNAPP,* B.S.AGR., *Director of the Agricultural Extension Service and Associate Dean, College of Agriculture, Forestry, and Home Economics* (1933), 1917.
LOUISE MIDDAUGH KNIGHT,* B.S., *Assistant State Leader, Home Demonstration Work, Agricultural Extension Service* (1956), 1952.
RUTH ELIZABETH KNOCH,* B.S., M.A., *Extension Clothing Specialist, Agricultural Extension Service* (1946), 1935.
CHRISTIAN BURDICK KOCH, B.S.F., M.S.F., *Assistant Professor of Forestry; Assistant Forester, Agricultural Experiment Station* (1955), 1951.
EVELYN MAUDE KOCHER, A.B., B.S. IN L.S., M.S. IN L.S., *Senior Catalogue Librarian, Library* (1958).
WALTER ALLOS KOEHLER, B.S.CH.E., CH.E., M.S., PH.D., *Professor and Head of Chemical Engineering; Director, Engineering Experiment Station* (1952), 1924.
ROY MILTON KOTTMAN, B.S., M.S., PH.D., *Dean, College of Agriculture, Forestry, and Home Economics; Director, Agricultural Experiment Station* (1958).
REGINALD FREDERICK KRAUSE, A.B., M.S., PH.D., M.D., *Professor and Head of Biochemistry* (1951).
FRANCES CATHERINE KRAUSKOPF, A.B., A.M., PH.D., *Assistant Professor of History* (1956).
HELEN LOUISE KUDLA, R.N., *Head Nurse, University Health Service* (1950).
ELIZABETH KUDRIAVETZ, B.S., M.A., *Assistant Dean of Women* (1958).
HERBERT MARTIN KULMAN PH.D., *Assistant Professor of Entomology; Assistant Entomologist, Agricultural Experiment Station* (1959).

Margaret Cornelia Ladwig, A.B., Ed.M., Ph.D., *Placement Advisor* (1952), 1949.
Richard Willoughby Laird, B.S.E.M., M.S.E.M., *Associate Professor of Mining Engineering* (1953), 1947.
Bernice Leil Lambert, *Assistant Social Director, Terrace Hall* (1952).
Oscar Doane Lambert, A.B., M.A., Ph.D., *Historical Records Specialist, Library* (1953), 1935. (Retired June 30, 1958.)
George Cooke Landon, B.A., M.A., *Instructor in English* (1958).
Beatrice Brenneman Law, A.B., M.A., *Instructor in English* (1949).
John Joseph Lawless, Ph.D., M.D., *Associate Professor of Medicine; Director, University Health Service* (1944), 1935.
Marilyn Layson, B.A., B.D., *Executive Secretary, Y.W.C.A.* (1958).
Charles Lester Lazzell, A.B., M.S., Ph.D., *Professor and Head of Chemistry* (1949), 1919.
Julian Gilbert Leach, B.S.A., M.S., Ph.D., *Professor and Head of Plant Pathology, Bacteriology, and Entomology; Plant Pathologist, Agricultural Experiment Station* (1938).
Marvin Robert Lee, B.S., *Teacher of Commerce, University High School* (1956).
Victor J. Lemke, B.A., M.A., Ph.D., *Professor and Head of German* (1955), 1939.
Jessie Fortney Lemley,* B.S.H.E., *Associate State Leader, Home Demonstration Work, Agricultural Extension Service* (1951), 1922.
Willis G. Lemley, A.B., *Technician in Histology* (1953).
Robert C. Leonard, Captain, U.S. Air Force, B.A., *Associate Professor of Air Science* (1956).
Nell Lanham Leonian, B.S.H.E., A.M., *Instructor in English* (1947), 1931.
Arnold David Levine, B.E.E., A.M., Ph.D., *Assistant Professor of Physics* (1957).
Mortimer Levine, B.A., A.M., Ph.D., *Assistant Professor of History* (1957), 1955.
Arthur Lewis, B.S., *Associate Professor of Physical Education, Head Football Coach* (1950).
Walter Richard Lewis, B.S., M.S., Ph.D., *Professor and Head of Agricultural Biochemistry and Nutrition; Agricultural Biochemist, Agricultural Experiment Station* (1951).
Kenneth Orell Lilly, *Research Assistant, School of Mines and Engineering Experiment Station* (1945).
Virgil Greene Lilly, Ph.D., *Professor of Physiology; Physiologist, Agricultural Experiment Station* (1949), 1927.
Hugh Alexander Lindsay, B.Sc., M.Sc., Ph.D., *Assistant Professor of Physiology* (1955).
Phyllis Jean Linger, R.N., *Nurse, University Health Service* (1955). (Resigned January 31, 1958.)
Delmas Valgene Lippard, Captain, U.S. Army, B.B.A., *Associate Professor of Military Science and Tactics* (1955). (Resigned September 1, 1958.)
Bettie Yvonne Livermore, B.A., M.S.W., *Assistant Professor of Social Work* (1957).
Gladdis Evelyn Loehr, A.B., M.S., *Instructor in Mathematics* (1957). (Resigned September 1, 1958.)
J. Everett Long, A.B., A.M., *Registrar of the University and Chairman of the Committee on Admissions* (1945), 1929.
Thomas Richard Long, B.S.M.E., *Instructor in Mechanical Engineering* (1958).
James Ray Longenett, *Assistant Supply Sergeant, Military Science and Tactics* (1958).
Alfred Delbert Longhouse, B.S., M.S., Ph.D., *Professor and Head of Agricultural Engineering; Agricultural Engineer, Agricultural Experiment Station* (1945), 1938.
Frank Edell Lorince, Jr., B.M., M.M., *Assistant Professor of Music* (1954), 1950.
Frederick Jackson Lotspeich, B.S., M.S., Ph.D., *Assistant Professor of Biochemistry* (1956).
Bethoelene Frances Love, B.S., M.S., *Assistant Professor of Pathology* (1955).
Edward C. Lowe, Jr., B.S., M.S., *Associate Director, Mountainlair* (1957), 1956.
Vernon Fred Lowenberg, A.B., M.S., *Instructor in Mathematics* (1953).
Robert P. L. Lu, B.S., M.S., *Instructor in Mathematics* (1956). (Resigned March 5, 1958.)
Jack Alexander Lucas, A.B., M.A., *Instructor in Sociology* (1956).
John Luchok, B.S., *University Editor; Editor, Agricultural Experiment Station* (1953), 1950.
John Charles Ludlum, B.S., M.S., Ph.D., *Professor of Geology* (1956), 1946.
Marlyn Edward Lugar, A.B., LL.B., J.S.D., *Professor of Law* (1951), 1939.
Virginia Gilmore Madigan Luikart, B.S., *Circulation Assistant, Library* (1951), 1930.

GLENN PAUL LYNCH, B.S.AGR., M.S.AGR., *Assistant Professor of Animal Husbandry; Assistant Animal Husbandman, Agricultural Experiment Station* (1956). (Resigned August 31, 1958.)

JOHN FRANCIS LYNCH, B.S.ED., B.S.E.E., *Instructor* (part-time) *in Electrical Engineering* (1958).

DAVID JANES LYTTLE, M.A., M.F.A., *Instructor in English* (1955).

WILLIAM HENRY MACKENZIE, *Instructor in Mining Extension* (1945).

ARTHUR COOK MCBRIDE, A.B., A.M., DOCTEUR DE L'UNIVERSITE' DE BORDEAUX, *Associate Professor of Romance Languages* (1950), 1926.

WILLIAM ALFRED MCCAULEY, A.B., M.A., *Coordinator, Interdepartmental Training Program in Rehabilitation Counseling* (1955).

ALAN HARTMAN MCCLAIN, B.E.M,. *Research Engineer, Engineering Experiment Station* (1955).

JOSEPH DWIGHT MCCLUNG, B.S.E.E., B.S.E.M., *Assistant Professor of Mining Engineering* (1953), 1941.

ERNIE BEVAN MCCUE, A.B., M.A., *Director, University Extension* (1952), 1947.

EMMA WILLIAMSON MCCUTCHEON, *Social Director, Arnold Hall* (1957), 1955.

MARY ADELINE MCDANIEL, A.B., A.M., *Administrative Assistant, Office of the President* (1957), 1941.

ELIZABETH ADAMS MCENNEY, MUS.B., MUS.M., *Assistant Professor of Music* (1949).

MARGARET GRASS MCGILL, A.B., *Librarian, University High School* (1958), 1957.

BERNARD RONALD MCGREGOR, B.S.ED., M.F.A., *Assistant Professor of Music* (1950), 1935.

RALPH TROY MCGUIRE, SFC, *Sergeant Major, Military Science and Tactics* (1957).

THEODORE CLINTON MCILVAINE, PH.D., *Professor Emeritus of Agronomy* (1950), 1918.

KENNETH DALE MCINTOSH, B.S., M.S., *Assistant Agricultural Economist, Agricultural Experiment Station* (1957).

FREDERICH R. MCKEEHAN, A.B., M.D., *Physician, University Health Service* (1958).

GORDON R. MCKINNEY, A.B., M.S., PH.D., *Associate Professor of Pharmacology* (1957), 1953.

GEORGE AIKEN MCLAREN, B.S., M.S., PH.D., *Associate Professor of Agricultural Biochemistry; Associate Agricultural Biochemist, Agricultural Experiment Station* (1957), 1955.

SHIRLEY ANNE MCLAUGHLIN, B.A., M.A., *Instructor in English* (1958), 1955.

WILLIAM H. MCMILLION, B.S., *Assistant Comptroller* (1958), 1952.

SAM MADIA, B.S., M.A., *Instructor in Education and Teacher of Arts and Crafts, University High School* (1955).

LARRY JACK MALCOMB, SFC, *Chief Administrative Clerk, Military Science and Tactics* (1955). (Resigned December 31, 1957.)

OLIVER BLYTHE MANNING, B.M., M.M., *Associate Professor of Music* (1957), 1950.

WARREN FRANCIS MANNING, A.B., A.M., PH.D., *Professor of Romance Languages; Foreign Student Adviser* (1952), 1928.

MARTIN MATHENY MANSPERGER, B.SC., M.A., *Professor of Education, University Extension* (1952).

JOHN MARKUS, M/SGT., *Supply Supervisor, Air Science* (1953). (Resigned June 30, 1958.)

RAY STANLEY MARSH, B.S.AGR., A.M,. *Professor and Head of Horticulture; Horticulturist, Agricultural Experiment Station* (1936).

MARLYS MAY MARSHALL, B.A., M.A., *Instructor in English* (1956). (Resigned May 31, 1958.)

GLENN FAYETTE MARTIN, *Instructor in Industrial Engineering* (1940).

JOHN HOPE MARTIN, B.S.E.E., *Instructor in Electrical Engineering* (1957).

WILLIAM GILBERT MARTIN, B.S., M.S., *Research Assistant, Poultry Husbandry* (1958).

S. SAMUEL MAURICE, B.A., M.S., *Assistant Professor of Physical Education: Supervisor of Safety Education* (1958).

GEORGE RALPH MAXWELL, B.S., M.D., *Assistant Professor* (part-time) *of Medicine* (1936), 1924.

MARJORIE JEAN MAZUR, A.B., B.S. IN L.S., *Senior Catalogue Librarian, Library* (1955). (Resigned February 28, 1958.)

JAMES TWYFORD MEHORTER, B.S., M.S., PH.D., *Instructor in Education* (1957). (Resigned May 31, 1958.)

HAROLD MENDELSOHN, B.S.S., M.S.W., *Consultant on Rehabilitation Training, Department of Social Work* (1956), 1953.

DOROTHY ANN MERO, R.N., *Nurse, University Health Service* (1958).

GERALD CLEM MICHAEL, B.A., M.S., *Instructor in Physics* (1957).

Betty Louise Miller, B.S.Ch.E., M.S., *Instructor in Mathematics* (1957).
Delmas Ferguson Miller, A.B., M.S., Ph.D., *Professor of Education; Principal, University High School; Director, Secondary Student Teaching* (1950), 1949.
Floyd Waldo Miller, A.B., M.A., B.S. in L.S., M.S. in L.S., *Chief Reference Librarian, Library* (1958).
Webster Earl Miller, A.B., M.A., *Instructor in Integrated Studies* (1956), 1946.
H. William Millington, A.M., *Lecturer* (part-time) *in Social Work* (1953).
Gene Thomas Mills, B.S.J., *Assistant Director, Bureau of Information* (1957). (Resigned July 1, 1958.)
Jack G. Milne, Colonel, U.S. Air Force, B.S., *Professor of Air Science* (1958).
William Sherman Minor, A.B., D.B., *Associate Professor of Philosophy* (1946).
Charlie Robertson Mitchell, B.S., *Instructor in Civil Engineering* (1958).
Kathleen Ayers Mitchell, *Social Director, Woman's Hall South* (1942), 1940.
Ralph Gerald Mitchell, B.S., M.S., Ph.D., *Assistant Professor of Dairy Husbandry; Assistant Dairy Husbandman, Agricultural Experiment Station* (1957).
Kenneth E. Moats, SFC, *Instructor in Military Science and Tactics* (1955).
William E. Mockler, M.A., Ph.D., *Associate Professor of English* (1957), 1938. (On leave of absence 1958-59.)
Fred A. Molby, Ph.D., *Professor Emeritus of Physics* (1948), 1920.
Geraldine Meaders Moncrief, B.S.H.E., *Instructor in Home Economics* (1958).
James S. Moncrief, Jr., Colonel, U.S. Army, B.S., *Professor of Military Science and Tactics* (1956).
Ethel Charlotte Montiegel, A.B., M.S., *Instructor in Biology* (1956).
Ellis Edwin Mood, *Flight Instructor, Aeronautical Engineering* (1956).
Byron Wayne Moore,* B.S., *Associate Extension Poultryman, Agricultural Extension Service* (1957), 1947.
Dane Wood Moore, Jr., B.S., M.S., *Bacteriologist* (1955).
Jack Bailey Moore, Jr., B.A., M.A., *Instructor in English* (1956). (Resigned July 31, 1958.)
Susan Maxwell Moore, A.B., *Instructor Emeritus in Piano and Sight Playing* (1937), 1903.
Joseph L. Morris,* B.S., *District Agent, Agricultural Extension Service* (1955), 1954.
Martha Lorene Morris, R.N., *Nurse, University Infirmary* (1956).
Samuel J. Morris, M.D., *Professor Emeritus of Physical Education* (1955), 1912.
William O. Morris, A.B., LL.B., *Associate Professor of Law* (1958).
Victor Eugene Morrone, B.S., M.Ed., *Assistant Professor of Education* (1957).
Mildred Iona Moyers, A.B., M.A., M.S in L.S., *Junior Catalogue Librarian, Library* (1956), 1955.
Caroline Turton Mudd, B.S., M.S.W., *Assistant Professor of Social Work* (1957).
Gerhard O. W. Mueller, A.B., J.D., LL.M., *Associate Professor of Law* (1955). (Resigned May 31, 1958.)
Beth Palmer Muffly, B.S., M.S., *Assistant Professor Emeritus of Home Economics* (1957), 1927.
Foster Glenn Mullenax, B.S.Agr., *Associate Extension Editor, Agricultural Extension Service* (1958), 1950.
Robert Ferguson Munn, A.B., M.A., *Director of University Libraries* (1957), 1952.
Frances B. Murphy, B.S. in Med. Tech., *Tissue Technologist in Pathology* (1956).
Chester William Muth, B.S., Ph.D., *Associate Professor of Chemistry* (1956), 1949.
James Stockert Myer, B.A., M.A., *Instructor in Psychology* (1957).
Galen Sheets Myers,* B.S.Agr., M.S., *District Agent, Agricultural Extension Service* (1952), 1935.
Leroy Orner Myers, B.A., M.A., *Assistant Professor of Geology* (1948).
Richard George Nadeau, B.S., M.S., *Assistant in Agricultural Biochemistry* (1958).
Richard Anthony Naldrett, Captain, U.S. Air Force, B.S., *Associate Professor of Air Science* (1956).
Oliver Meader Neal, Jr., B.S., Ph.D., *Assistant Professor of Horticulture; Assistant Horticulturist; Agricultural Experiment Station* (1948), 1942.
Charles David Neel, A.B., M.A., *Instructor in Speech* (1957), 1954. (Resigned September 1, 1958.)
Elizabeth Brownfield Neel, *Administrative Assistant, Library* (1949), 1936.
Robert Hudkins Neff, B.S., M.S., *Instructor in Education* (1957), 1955.
Daniel James Nelson, B.S., M.S., Ph.D., *Assistant Professor of Biology* (1957).
George H. Nelson, A.B., M.S., Ph.D., *Instructor* (part-time) *in Biochemistry* (1958).

NELL NESBITT, A.M., *Associate Professor Emeritus of Home Economics* (1942), 1923.
PAUL EMMETT NESSELROAD, B.S., M.S., *Assistant Agricultural Economist in Farm Management, Agricultural Experiment Station* (1954).
RICHARD LEO NEWDICK, B.A., M.A., *Instructor in Speech* (1958).
JOSEPH NEWHOUSE, B.S., M.S., *Assistant Professor of Economics* (1956), 1955.
HENRY WILLIAM NEWMAN, B.A., M.A., *Instructor in Integrated Studies* (1955).
FREDERIC ALBRIGHT NEYHART, B.S., M.A., *Instructor in Speech* (1958).
E. GRANT NINE, A.B., M.S., *Instructor in Education; Assistant Principal, University High School* (1956).
WILDA HOARD NOEL, B.S.H.E., *Executive Housekeeper and Dietitian, Arnold Hall* (1956), 1954.
RUTH DOUGLAS NOER, B.A., M.S., *Professor and Director of the Division of Home Economics, and Assistant Dean of the College of Agriculture, Forestry, and Home Economics* (1959), 1925.
CHARLES NORMAN, B.S., M.S., PH.D., *Associate Professor of Biology* (1957), 1953.
WILLIAM LAURUS NORTHERN,* B.S., M. AGR., *Extension Dairyman, Agricultural Extension Service* (1956), 1951.
DAVID WILMARTH NORTHUP, A.B., M.A., PH.D., *Professor and Head of Physiology* (1949), 1935.
HONORA MACARTHUR NOYES, B.A., M.ED., *Assistant Professor of Secretarial Science* (1957).
WILLIAM ERMAL NUTTER, B.S., M.S., *Assistant in Agricultural Biochemistry, Agricultural Experiment Station* (1956), 1953.
ALFRED NORMAN NYBROTEN, B.ED., PH.D., *Professor of Agricultural Economics; Agricultural Economist, Agricultural Experiment Station* (1948). (Resigned January 1, 1958.)
FRANK DENNIS O'CONNELL, B.S., M.S., PH.D., *Assistant Professor of Pharmacognosy* (1957).
BERNARD O'DONNELL, B.S., M.S., *Instructor in English* (1957).
NORMAN OLAF OLSON, D.V.M., *Professor of Animal Pathology; Animal Pathologist, Agricultural Experiment Station* (1948).
ROBERT ROY OLSON, M/SGT., *Instructor in Military Science and Tactics* (1954), 1953. (Resigned May 31, 1958.)
EDWIN ORR, B.S.M.E., *Superintendent of Buildings and Grounds* (1954), 1949.
CARRIE JEANETTE OSWALD, B.S., M.S., *Associate Professor of Nursing Education* (1949).
JAMES EDWIN OVERBERGER, B.S., D.D.S., M.S., *Assistant Professor of Dental Materials* (1957).
ROBERT ELLIS OWNLEY, B.E.E., B.S., *Instructor in Electrical Engineering* (1956).
EDWARD ANTHONY PACOFSKY, B.S., M.S., *Instructor in Chemistry* (1957).
MARY NADINE PAGE, M.A., *Assistant Professor of English* (1946), 1925.
ENID JOAN PALLANT, B.S., M.A., *Instructor in Speech* (1958).
JEROME FOREST PARMER, B.S.M.E., *Instructor in Mechanical Engineering* (1957).
DICKSON WARD PARSONS, A.B., M.S., PH.D., *Professor Emeritus of Agricultural Education* (1951), 1923.
HOMER PATRICK, B.S., M.A., PH.D., *Professor and Head of Poultry Husbandry; Poultry Husbandman, Agricultural Experiment Station* (1957).
FRANK MORGAN PATTERSON, B.A., M.A., *Instructor in English* (1957).
CHARLES EDWIN PATTON, A.M., *Professor and Head of Art* (1951), 1939.
ARMINE DEANE PAUL, B.S., PH.D., *Assistant Professor of Chemistry* (1955).
HELEN MARY PAVLECH, B.S., M.A., *Assistant in Microbiology* (1954).
JOSEPH ERNEST PAYNE, COLONEL, U. S. AIR FORCE, B.S., *Professor of Air Science* (1955). (Resigned July 14, 1958.)
ROGER WATERMAN PEASE, B.S., M.S., *Assistant Agricultural Economist, Agricultural Experiment Station* (1955), 1947.
FRANK PELUSO, B.S.ED., M.A., ED.D., *Associate Professor of Education* (1957), 1950.
W. CLEMENT PERCIVAL, B.S., M.S., PH.D., *Professor and Director of the Division of Forestry; Forester, Agricultural Experiment Station; and Assistant Dean, College of Agriculture, Forestry, and Home Economics* (1959), 1934.
VIRGINIA TAYLOR PERRY, A.B., M.A., M.S. IN L.S., *Chief Circulation Librarian* (1954), 1946.
JANE RHODES PESTUN, B.M., M.M., *Instructor in Music* (1954), 1942.
ILAND DEE PETERS, A.B., M.S., *Associate Professor of Mathematics* (1957), 1941.
MASON MARCUS PETERSON, B.S.E.E., *Associate Professor of Electrical Engineering* (1948).

Helen Purinton Pettigrew, B.A., M.A., Ph.D., *Associate Professor of English* (1955), 1921.

Elizabeth Ruth Phillips, A.B., B.M., M.S., *Assistant Professor of Speech* (1954), 1953.

George Richard Phillips, *Assistant Director, Bureau of Information* (1954).

Ross Alonzo Phillips, B.S.Agr., B.S.Agr.Eng., M.S.Agr.Eng., *Assistant Professor of Agricultural Engineering; Assistant Agricultural Engineer, Agricultural Experiment Station* (1955).

Byrd Lea Pickens, A.B., M.A., *Assistant Circulation Librarian* (Retired), *Library* (1945), 1930.

Justus C. Pickett, M.D., *Lecturer* (part-time) *in Social Work* (1949).

Helen Lester Plants, B.S.C.E., M.S.C.E., *Assistant Professor of Mechanics* (1956), 1947

Berta Gertrud Plaut, B.A., B.S. in L.S., *Senior Catalogue Librarian, Library* (1953).

George Gordon Pohlman, B.S., M.S., Ph.D., *Professor and Head of Agronomy and Genetics; Agronomist, Agricultural Experiment Station* (1938), 1930.

Peter Popovich, A.B., B.S., M.S., *Instructor in Chemistry; Pre-Medical Student Adviser* (1954), 1946.

Ira Deward Porterfield, B.S., M.S., Ph.D., *Professor and Head of Dairy Husbandry; Dairy Husbandman, Agricultural Experiment Station* (1956), 1946.

Eldon E. Posey, B.S., M.A., Ph.D., *Assistant Professor of Mathematics* (1954).

Oleta Reed Post, B.S., M.A., *Instructor in Education; Teacher of English, University High School* (1953).

James Stanley Poundstone, *Instructor in Mining Extension* (1924).

Blanche Elizabeth Price, A.B., M.A., *Assistant Professor of Home Economics; Manager, University Cafeteria* (1954).

Clarence Lee Price, B.S., C.P.A., *Lecturer* (part-time) *in Accounting* (1955). (Resigned May 31, 1958).

Cecil Benjamin Pride, A.B., M.D., *Associate Professor* (part-time) *of Surgery* (1942), 1926.

Cletis Graden Pride, B.S.J., *Assistant Director, Bureau of Information* (1958), 1953.

Maynard Pride, A.B., M.D., *Instructor* (part-time) *in Surgery* (1949).

Bertha Browning Purinton, A.B., A.M., *Assistant Registrar* (Retired) (1949), 1919.

John Junior Pushkarsh, A.B., A.M., *Instructor in Russian* (1955).

David Oliver Quinn,* A.B., M.S., *Plant Pathologist and Entomologist, Agricultural Extension Service* (1955).

John Thomas Raese, B.S., *Instructor in Agronomy; Assistant in Agronomy, Agricultural Experiment Station* (1958).

Betty Lou Ramsey, B.S.H.E., M.S., *Assistant Professor of Home Economics* (1957), 1956.

Kenneth Vincent Randolph, B.S., D.D.S., *Professor of Operative Dentistry, Dean, School of Dentistry* (1958), 1957.

Robert Edward Rankin, B.A., M.A., Ph.D., *Assistant Professor of Psychology* (1956), 1954.

Ralph Earl Redford, S/Sgt., *Administrative Assistant, Air Science* (1957).

Robert Newton Reece, A.B., M.A., *Instructor in Geology* (1957).

Elizabeth Frost Reed, A.M., *Assistant Professor Emeritus of English* (1953), 1919.

James Cornelius Reed, *Inventory Control Supervisor; Manager, College Park* (1953), 1946.

Laura A. Reed, M.S., *Instructor in Mathematics* (1956). (Resigned May 31, 1958.)

Perley Isac Reed, Ph.B., A.B., A.M., Ph.D., *Professor Emeritus of Journalism* (1958), 1920.

Albert Moore Reese, A.B., Ph.D., *Professor Emeritus of Zoology* (1946), 1907.

Florence Katherine Reese, A.B., M.A., B.S. in L.S., *Associate Professor and Head of Library Science* (1957), 1935.

Robert Leslie Reid, B.Sc., B.Agr., Ph.D., *Assistant in Agricultural Biochemistry, Agricultural Experiment Station* (1957).

William Henry Reid, B.F., M.F., *Associate Professor of Forest Utilization; Associate Forester, Agricultural Experiment Station* (1951).

Janet Elizabeth Remington, B.M., *Instructor* (part-time) *in Music* (1954).

Lawrence Morris Reppert, B.S., *Instructor in Mechanics* (1957). (Resigned September 1, 1958.)

Harvey Nixon Rexroad, B.S.E.E., M.S., Ph.D., *Associate Professor of Physics* (1957), 1947.

RANDALL WILLIAM REYER, A.B., M.A., PH.D., *Associate Professor of Microanatomy and Organology* (1957), 1942.

MICHAEL MORGAN REYNOLDS, A.B., M.S., M.A., *Assistant Librarian* (1957).

JOHN HARRISON RIETZ, D.V.M., M.Sc., *Professor Emeritus of Animal Pathology* (1948), 1927.

LEWIS BROADBENT RINGER, B.S., *Instructor in Physical Education; Swimming Coach* (1958).

ELIZABETH ANN ROBERTS,* B.S.H.E., M.S., *Extension Foods and Nutrition Specialist, Agricultural Extension Service* (1956), 1952.

EVAN OWEN ROBERTS, A.B., M.A., PH.D., *Professor of Economics and Marketing* (1953), 1939.

LOUISE BOGGESS ROBERTS, B.S., M.A., *Instructor in Education; Teacher of Home Economics, University High School* (1937), 1928.

HELEN ELAINE ROBINSON, A.B., M.S. IN L.S., *Librarian, University High School* (1949). (Resigned September 1, 1958.)

J. BEN ROBINSON, D.D.S., D.Sc., *Dean Emeritus, School of Dentistry* (1958), 1953.

RUTH ELEANOR ROBINSON, A.B., A.M., *Manager, University Book Store* (1944), 1939.

WALTER HARRISON ROCKENSTEIN, A.B., S.T.B., S.T.M., *Instructor in Speech* (1956).

BETTY JO RODEHEAVER, B.S.H.E., *Instructor in Home Management; Director, Home Management House* (1956). (Resigned May 31, 1958.)

IRA ERRETT RODGERS, A.B., *Associate Professor of Physical Education; Golf Coach* (1950), 1920.

KATE MEREDITH ROLLER, A.B., M.A., *Instructor* (Retired) *in Education, Teacher* (Retired) *of Arts and Crafts, University High School* (1955), 1927.

STANLEY EDWARD ROMANOSKI, B.S., M.S., *Instructor in Physical Education, Track, Field, and Cross Country Coach* (1957).

IRENE BROWNLEE ROSS, B.S., *Dietitian, Terrace Hall* (1957), 1945.

MARTIN R. ROSS, B.A., M.S., PH.D., *Assistant Professor of Bacteriology* (1957).

WILLIAM ROBERT ROSS, A.B., M.A., *Assistant Professor of Political Science* (1948), 1938.

ERNEST E. ROSSI, B.A., M.LITT., *Visiting Professor of Political Science* (1958).

WILLIAM ERVIN RUMBACH, A.B., M.S., *Instructor in Agronomy; Assistant Agronomist, Agricultural Experiment Station* (1957), 1955.

CHARLES MICHAEL RUNNER, *Stationary Engineer* (Retired), *Mechanical Engineering* (1950), 1919.

HARTER MILLER RUPERT, JR., B.S.C.E., *Instructor in Civil Engineering* (1957).

ARRON SACKS, A.B., M.S., *Lecturer* (part-time) *in Social Work* (1956).

SABRI SAMI, B.S., M.S., PH.D., *Professor of Civil Engineering* (1958).

DOROTHY JOAN SAMMONS, A.B., M.S.W., *Associate in Rehabilitation Social Work*, (1956).

MABEL KERSEY SAMUEL, B.S., *Dietitian and Executive Housekeeper, Men's Residence Hall* (1946).

ERNEST JAMES SANDY, B.S.M.E., *Assistant Professor of Mining Engineering* (1957), 1946.

DORIS JUNE SANTEE, A.B., M.A., *Instructor in Education* (1957).

DENVER GLENDAIRE SASSER, A.B., A.M., *Instructor in English* (1958).

ROBERT EARL SAUSEN, D.D.S., M.S.D., *Professor of Operative Dentistry* (1958).

GREEK SAYRE, A.B., M.A., *Assistant Professor Emeritus of English* (1957), 1918.

LEROY HALLOWELL SAXE, JR., B.S., A.M., PH.D., *Associate Professor of Pharmacology* (1958), 1955.

FRANK JOSEPH SCALISE, B.S., M.S., *Teacher of Core, University High School* (1958).

GEORGE ETHERIDGE SCHAEFER, B.M., M.M., PH.D., *Assistant Professor of Music* (1954).

FREDERICK APPLETON SCHAUS, B.S., M.S., *Instructor in Physical Education; Head Basketball Coach* (1954).

JOHN G. SCHERLACHER, B.S., M.ED., *Associate Professor of Recreation* (1947).

BERNARD BURTON SCHLANGER, B.A., M.A., PH.D., *Associate Professor of Speech; Director, Speech and Hearing Clinic* (1958).

LUCILLE ANNE SCHMIEDER, A.B., M.S., *Instructor in Biology* (1955), 1951.

OSCAR EDMUND SCHUBERT, B.S.AGR., M.S., PH.D., *Associate Professor of Horticulture; Associate Horticulturist, Agricultural Experiment Station* (1953), 1949.

CLARENCE K. SCHULTZ, A.B., M.A., PH.D., *Associate Professor of Education* (1949). (Deceased May 9, 1959.)

WALTER DONALD SCHULTZE, B.A., M.S., PH.D., *Instructor in Bacteriology; Assistant in Bacteriology, Agricultural Experiment Station* (1958).

Grace Doris Scott, A.B., M.A., Ed.D., *Associate Professor of Education* (1954), 1950. (On leave of absence 1958-59.)

Jane Claire Scott, B.M., A.B., M.M., *Assistant Professor of Music* (1958).

Raymer Egbert Seaman, *Instructor Emeritus in Foundry Practice and Woodworking* (1945), 1912.

John J. S. Sebastian, D.Sc., Ch.E. *Visiting Lecturer, Chemical Engineering* (1948).

Ralph William Seeger, A.B., *Engineer-Geologist, Engineering Experiment Station* (1957).

Charles Borum Seibert, B.S.E.E., M.S.E.E., *Professor of Electrical Engineering* (1951), 1934.

Leon Zee Seltzer, B.S.E., Ph.C., *Professor and Head of Aeronautical Engineering; Aeronautical Engineer; Engineering Experiment Station* (1949).

John Semon, A.B., M.S., *Associate Professor of Physical Education; Head, Professional Curriculum for Men* (1957), 1943.

Mary Alice Semon, B.S., M.S., *Instructor* (part-time) *in Education; Teacher* (part-time) *of Social Studies, University High School* (1958), 1938.

James N. Shafer, A.B., M.A., Ph.D., *Assistant Professor of Psychology* (1955), 1953.

Raymond Edwin Shafer, B.S.I.E., M.S.I.E., *Professor and Head of Industrial Engineering* (1957), 1949.

Hubert Adams Shaffer, B.S., M.D., *Consulting Radiologist, Health Service* (1949).

Russell Spurgeon Shahan, Jr., B.Mus., *Teacher of Instrumental and Vocal Music, University High School* (1952).

Anna Wagoner Sharpe, B.S., *Technologist, Pathology* (1957).

George Sharpe,* B.S., M.S., *Extension Soil Conservationist, Agricultural Extension Service* (1944), 1930.

Thelma Shaw, A.B., *Lecturer* (part-time) *in Social Work* (1953).

Charles Jacii Sheehan, B.S.Ed., *Veterans Coordinator and Coordinator of Scholarships* (1957), 1955.

Paul Kenneth Sheesiek, B.S., M.S., *Instructor* (part-time) *in Physics* (1958).

Damon Charles Shelton, B.S.Agr., M.S., Ph.D., *Professor of Agricultural Biochemistry; Agricultural Biochemist, Agricultural Experiment Station* (1957), 1953.

Vernon Morris Sheppard, Jr., B.S., *Extension Agricultural Economist, Agricultural Extension Service,* (1958).

Charles William Shetter, B.A., M.A., *Curator, West Virginia Collection, Library* (1950).

John Edward Shockey, B.S., *Instructor in Physical Education; Backfield Football Coach* (1950).

Wilson Porter Shortridge, A.B., A.M., Ph.D., *Professor Emeritus of History* (1951), 1922.

James Robert Shumaker, B.S., *Instructor in Horticulture; Assistant in Horticulture, Agricultural Experiment Station* (1958).

Fred B. Silberstien, M.A., Ph.D., *Assistant Professor of Sociology* (1958), 1955.

Charles Scott Simmons, *Business Manager of Intercollegiate Athletics* (1947).

Howard Perry Simons, B.A., M.Sc., Ph.D., *Professor of Chemical Engineering; Chemical Engineer; Engineering Experiment Station* (1947), 1939.

Armand Edwards Singer, A.B., A.M., Ph.D., *Associate Professor of Romance Languages* (1955), 1940.

Leonard Marion Sizer, B.A., M.A., Ph.D., *Assistant Professor of Rural Sociology; Assistant Rural Sociologist, Agricultural Experiment Station* (1955).

Charles Preston Skaggs, B.S., C.P.A., *Lecturer in Accounting* (1954).

John Madison Slack, B.A., M.S., Ph.D., *Professor and Head of Microbiology and Public Hygiene* (1949), 1946.

Clark Kendall Sleeth, A.B., B.S., M.D., *Associate Professor of Medicine; Assistant to Dean, School of Medicine; Physician, Health Service* (1958), 1935.

Robert Dean Slonneger, B.S.M.E., M.S.M.E., *Associate Professor of Mechanical Engineering* (1955), 1954.

Genevieve Poland Smell, A.B., M.A., *Instructor in Biology* (1946).

Arthur Newell Smith, A.B., *Associate Professor Emeritus of Physical Education; Track Coach Emeritus* (1957), 1924.

Fred Manning Smith, A.B., B.A., M.A., Ph.D., *Professor Emeritus of English* (1952), 1927.

Howard Carrollton Smith, B.S.Agr., *Superintendent, Poultry Husbandry Farm* (1921).

Marion Judson Smith, B.S.E.E., M.S., *Professor of Electrical Engineering* (1956), 1954.

Nelson Stuart Smith, Jr., B.S.E.E., *Assistant Professor of Electrical Engineering* (1948), 1956.

Robert Leo Smith, B.S., M.S., Ph.D., *Assistant Professor of Wildlife Management; Assistant Forester, Agricultural Experiment Station* (1958).

Sara Rector Smith, Ph.D., *Associate Professor of History* (1951), 1946.

Theodore Noss Smith, A.B., M.A., *Instructor in Speech* (1955). (Resigned May 31, 1958.)

Grace Martin Snee, B.M., *Instructor Emeritus of Piano and Pipe Organ* (1945), 1898.

Robert A. Snyder, B.S., *Assistant Football Coach* (1956). (Resigned January 31, 1958.)

Coy Larue Son, S/Sgt., *Administrative Assistant, Air Science* (1957).

Sylvia Josephine Soupart, M.A., *Instructor Emeritus of Education* (1945), 1925.

Bernece McKean Spangler, A.B., M.A., *Instructor in English* (1948), 1947. (Resigned September 1, 1958.)

Robert Clifton Spangler, A.B., A.M, Ph.D., *Professor Emeritus of Botany* (1955), 1914.

Henry Withers Speiden, B.S.C.E., M.S.C.E., *Professor and Head of Civil Engineering; Civil Engineer, Engineering Experiment Station* (1947), 1931.

Charles Billmyer Sperow, Jr., B.S.Agr., *Assistant Agronomist in Charge, Ohio Valley Substation* (P.O., Point Pleasant), *Agricultural Experiment Station* (1957), 1952.

Claude Carl Spiker, A.B., M.A., Ph.D., *Professor Emeritus of Romance Languages* (1954), 1913.

Phyllis Vannoy Spiker, B.S., *Research Assistant, Biochemistry* (1958), 1957.

Garold Ralph Spindler, B.S.E.M., E.M., *Dean, School of Mines; Professor of Mining Engineering; Mining Engineer, Engineering Experiment Station* (1948), 1934.

Robb Spaulding Spray, Ph.D., *Professor Emeritus of Bacteriology and Public Hygiene* (1946), 1921.

Elvis Jacob Stahr, Jr., A.B., B.A. in Jurisprudence, M.A. (Oxon.), B.C.L., LL.D., *President of the University* (1959).

Elizabeth Mattingly Stalnaker, A.B., A.M., Ph.D., *Professor Emeritus of Psychology* (1953), 1925.

John Francis Stasny, B.A., M.A., *Instructor in English* (1955).

Archie Lemuel Starkey, B.S., M.D., *Instructor* (part-time) *in Medicine* (1949).

Barbara Manley Steel, B.A., M.A., *Instructor in Biology* (1957). (Resigned May 31, 1958.)

Edward Marvin Steel, Jr., A.B., M.A., Ph.D., *Assistant Professor of History* (1956).

Robert Lee Steele,* B.S., M.A., *Associate Extension Dairyman, Agricultural Extension Service* (1957), 1955.

Walter Franklin Steinman, B.S., M.S., *Psychometrist, Department of Psychology* (1956). (Resigned September 1, 1958.)

Forrest Wilbur Stemple, A.B., M.Sc., Ph.D., *Professor Emeritus of Education* (1952), 1916.

Irvin Stewart, LL.B., A.B., A.M., Ph.D., LL.D., Litt.D., *Professor of Political Science* (1959), 1946. (On leave of absence 1958-59.)

Joseph K. Stewart, Ph.D., *Professor of Mathematics; Director, Kanawha Valley Graduate Center* (1958), 1930.

Orval Christy Stewart, B.S.M.E., *Instructor in Mechanical Engineering* (1956), 1955.

John Clifford Stickney, B.S., M.S., Ph.D., *Professor of Physiology* (1957), 1940.

Robert S. Stilwell, B.A., M.A., Ph.D., *Associate Professor of German* (1955), 1947.

Harry Everett Stone, A.M., *Secretary* (Retired), *Student Loans and Placement* (1950), 1922. (Deceased January 31, 1959.)

Lowry McElvaine Stoops, A.B., *Assistant Director of Intercollegiate Athletics* (1926).

Benjamin M. Stout, Jr., A.B., M.D., *Physician, Health Service* (1957).

John Milton Strait, M.E. in E.E., M.E., *Associate Professor of Mechanical Engineering* (1955), 1947

Perry Daniel Strausbaugh, Ph.D., *Professor Emeritus of Biology* (1948), 1923.

Robert Cowan Strong, Jr., B.S., M.S., B.Ed., *Instructor in Mathematics* (1957).

Albert Lee Sturm, A.B., A.M., Ph.D., *Professor of Political Science* (1951), 1946. (On leave of absence 1958-59.)

Festus Paul Summers, A.B., A.M., Ph.D., *Professor and Head of History* (1947), 1932.

William Robert Summers, Jr., B.J., M.A., *Assistant Professor of Journalism* (1952).

Mary Lane Swartz, B.S., M.S., *Coordinator* (part-time) *for Foreign Students in Home Economics* (1958).

John Bradford Swecker, B.S.Agr., M.S., *Assistant Professor of Agricultural Education* (1956). (On leave of absence 1958-59.)

RAY DARIS SWINDLER, A.B., M.A., *Instructor in Gross and Neurological Anatomy* (1957), 1954.

H. SINCLAIR TAIT, M.D.C.M., P.M.B., *Assistant Professor* (part-time) *of Medicine* (1952).

W. B. TALBOTT, *Instructor in Mining Extension* (1927).

JOSEPH PAUL TALERICO, A.B., M.A., *Instructor in Education; Teacher of Social Studies, University High School* (1948).

THOMAS JOSEPH TATTERSON,* B.S., *Assistant Extension Horticultrist, Agricultural Extension Service* (1957).

CHARLES LEONARD TAYLOR,* B.S., M.M., *Recreation Specialist, Oglebay Institute, Agricultural Extension Service* (P.O., Wheeling) (1953).

HARLEY USTUS TAYLOR, JR., A.B., M.A., *Instructor in German* (1951), 1949.

JACK D. TAYLOR, B.S., M.A., *Instructor in Education; Teacher of Social Studies, University High School* (1957).

LELAND HART TAYLOR, B.SC., M.SC., SC.D., *Professor of Zoology* (1939), 1922.

MARY EDITH TEMPLETON, A.B., M.S., *Assistant in Agricultural Economics, Agricultural Experiment Station* (1955).

NOEL A. TENNEY, *Assistant Superintendent of Buildings and Grounds* (1956).

SAMUEL THAVIU, *Instructor* (part-time) *in Music* (1952).

RALPH HOUGH THEOPHILUS, B.S.E.E., LITT.M., M.ED., *Associate Professor of Electrical Engineering* (1956).

ARTHUR RAYMOND THOMAS, A.B., SC.M., PH.D., *Assistant Professor of Psychology* (1957), 1956.

CHARLES DANSER THOMAS, PH.D., *Professor and Head of Physics* (1956), 1931.

ROBERT HAMILTON THOMAS, B.S.AGR., M.A., PH.D., *Associate Professor of Dairy Husbandry; Associate Dairy Husbandman, Agricultural Experiment Station* (1958).

DOROTHY JOAN THOMPSON, A.B., M.S.W., *Associate in Rehabilitation* (1956).

JAMES HOWARD THOMPSON, A.B., M.A., PH.D., *Professor of Economics; Director, Bureau of Business Research* (1958), 1948.

JOHN MANVILLE THOMPSON, B.A., M.F.A., *Instructor in English* (1958).

GORDON RUDOLPH THORN, A.B., M.A., *Assistant Director of Student Affairs* (1957).

JUNE M. THORN, B.S., M.S., *Assistant State 4-H Club Leader, Agricultural Extension Service* (1958), 1945.

GEORGE E. TOBEN, M.S., *Associate Professor of Agricultural Economics; Agricultural Economist in Farm Management, Agricultural Experiment Station* (1946).

COLEMAN EUGENE TOOTHMAN, B.S., *Instructor in Accounting* (1956). (Resigned January 1, 1958.)

HARRY F. TOOTHMAN, PH.D., *Associate Professor Emeritus of Education, University Extension Service* (1955), 1946.

PATRICK ANTHONY TORK, A.B., M.S., *Professor of Physical Education; Director, General Program for Men; Director, Field House* (1953), 1943.

CELIA JEANNETTE TOWER, A.B., M.A., *Instructor in English* (1957).

MARTHA RECTOR TRAXLER, *Chief Clerk, Agricultural Experiment Station and College of Agriculture, Forestry, and Home Economics* (1950), 1927.

RODNEY PHILIP TRUE, A.B., PH.D., *Professor of Plant Pathology; Plant Pathologist, Agricultural Experiment Station* (1955), 1949.

EARL HAVEN TRYON, B.S., M.S., PH.D., *Professor of Silviculture; Silviculturist, Agritural Experiment Station* (1952), 1945.

ELDON BRYANT TUCKER, B.S., M.D., *Lecturer* (part-time) *in Pharmacology* (1937).

BIRD MARGARET TURNER, A.B., A.M., PH.D., *Professor Emeritus of Mathematics* (1947), 1923.

BENJAMIN HARRISON ULRICH, JR., B.S.A.E., M.S.A.E., *Associate Professor of Aeronautical Engineering; Associate Aeronautical Engineer, Engineering Experiment Station* (1955), 1951.

VALENTIN ULRICH, A.B., *Assistant Professor of Genetics; Assistant Geneticist, Agricultural Experiment Station* (1957).

TERRELL MARTIN UPCHURCH, A.B.ED., *Assistant Professor of Air Science* (1955). (Resigned September 1, 1958.)

EUGENE RILEY VALE, M/SGT., *Sgt. Major, Air Science* (1956).

WILLIAM ADOLPH VANECK, B.S., M.S., PH.D., *Assistant Professor of Agronomy; Assistant Agronomist, Agricultural Experiment Station* (1957).

AUDREY HOWARD VANLANDINGHAM, B.S., M.S., PH.D., *Director of the Agricultural Experiment Station and Associate Dean, College of Agriculture, Forestry, and Home Economics* (1959), 1929.

Edward Jerald VanLiere, M.S., M.D., Ph.D., Litt.D., *Dean of the School of Medicine; Professor of Physiology* (1937), 1921.

Irene Fetty Vanroyen, A.B., B.S. in L.S., *Senior Reference Librarian, Library* (1958).

Collins Veatch, B.S., M.S., Ph.D., *Associate Professor of Agronomy; Associate Agronomist, Agricultural Experiment Station* (1945).

Charles Henry Veihe, Sc.B., M.S., Ph.D., *Professor of Mathematics* (1947), 1929.

Marvin Lewis Vest, B.S., M.S., A.M., Ph.D., *Professor of Mathematics* (1955), 1931.

Vern Margrave Vincent, B.B.A., M.B.A., Ph.D., *Professor of Accounting; Assistant Dean, College of Commerce* (1958), 1957.

Mayme Elizabeth Waddell, B.S., M.A., *Director* (Retired) *of Residence Halls* (1956), 1930.

Barbara Allene Wade, A.B., M.S. in L.S., *Instructor in Library Science* (1958).

Carl Eustice Wade, B.S., M.S., *Instructor in Economics* (1955).

Rebecca Estra Wade, A.B., M.A., A.L.M., *Assistant Professor of Romance Languages* (1955), 1945.

John F. Walker, B.S., M.A., *Instructor in Education; Teacher of Commerce, University High School* (1956). (Resigned September 1, 1958.)

Charles Ernest Walls, *Laboratory Assistant and Mechanician in Chemical Engineering* (1938).

Benjamin W. Wamsley, Jr.,* B.S., A.B., *Associate Extension Animal Husbandman, Agricultural Extension Service* (1957), 1948.

Charles Henry Warner, B.S.M.E., *Instructor in Mechanical Engineering* (1955).

Mary Melissa Washburn,* *Assistant to the Director, Agricultural Extension Service* (1957).

Charles Mitchell Watson, M.S., *Instructor in Speech* (1956).

Leighton Guilford Watson,* A.B., *Agricultural Extension Editor* (1947), 1938.

Daniel Thomas Watts, A.B., Ph.D., *Professor and Head of Pharmacology* (1953).

Royce Jackson Watts, B.S., *Instructor in Accounting* (1956). (Resigned September 1, 1958.)

Waldemar Anthony Wawrukiewicz, First Lieutenant, U.S. Air Force, B.S., *Assistant Professor of Air Science* (1958).

Charles Edward Weakley, Jr., A.B., M.A., *Associate Agricultural Biochemist Emeritus, Agricultural Experiment Station* (1955), 1907.

George William Weaver, B.S.M.E., M.S.M.E., *Associate Professor of Mechanics* (1956), 1948.

Samuel Josephus Weese, B.S., M.A., *Associate Professor of Dairy Husbandry; Associate Dairy Husbandman, Agricultural Experiment Station* (1951), 1945.

James A. Welch, B.S., Ph.D., *Associate Professor of Animal Husbandry; Associate Animal Husbandman, Agricultural Experiment Station* (1955), 1952.

Lloyd Washington Welden, B.S., M.A., *Associate Professor of Speech* (1952), 1947.

Neil J. Weller, M.A., Ph.B., *Assistant Professor of Sociology* (1958).

Dana Wells, A.B., M.A., Ph.D., *Professor of Geology* (1952), 1930.

Chin-Yung Wen, B.Sc., M.S.Ch.E., *Assistant Professor of Chemical Engineering* (1956), 1954.

Kyle Chester Westover, B.S., M.S., Ph.D., *Professor of Horticulture; Horticulturist, Agricultural Experiment Station* (1945), 1921.

Harry Grove Wheat, A.B., A.M., Ph.D., *Professor Emeritus of Education* (1956), 1935.

Robert Harvey Wheeler, A.B., A.M., *Instructor in English* (1956). (Resigned May 31, 1958.)

Bennett Sexton White, B.S.M.E., *Professor Emeritus of Drawing and Mechanical Design, Mechanical Engineering* (1946), 1919.

Ralph M. White, A.B., LL.B., *Assistant Professor of Political Science* (1951), 1940.

Waldo D. Whitney, A.B., M.S.S.W., *Associate Professor of Social Work* (1957), 1952.

Frederick Rendell Whittlesey, B.A., M.D. *Assistant Professor* (part-time) *of Medicine* (1940), 1930.

Mary Kathryne Wiedebusch, B.S., *Instructor in Physical Education* (1955).

Dale L. Wilhelm, B.S., M.S., Ph.D., *Assistant Professor of Chemistry* (1954).

Carolyn Williams, B.S., M.A., *Assistant Professor of Physical Education* (1957).

John Rodney Williams, A.B., M.A., Ph.D., *Associate Professor of Political Science* (1956), 1949.

T. Walley Williams, B.S., M.S., Ph.D., *Professor and Head of Microanatomy and Organology* (1957), 1944.

Douglas Bleecker Williamson, B.A., M.A., Ed.D., *Assistant Professor of Physics* (1946).

Charles Vineyard Wilson, B.S.Agr., M.S., *Professor Emeritus of Animal Husbandry* (1952), 1919.

Harold Albert Wilson, B.S., M.S., Ph.D., *Professor of Bacteriology; Bacteriologist, Agricultural Experiment Station* (1957), 1947.

John Frederick Wilson, A.B., D.D.S., *Instructor* (part-time) *in Dental Anatomy* (1958).

May Landstreet Wilt, B.S., M.A., *Instructor in Education; Supervisor of Mathematics, University High School* (1931), 1925.

Janet M. Wiltrout, A.B., *Teacher of English, University High School* (1957). (Resigned June 1, 1958.)

William W. Wiltrout, B.S., *Teacher of Physical Education, University High School* (1957). (Resigned June 1, 1958.)

John E. Winter, Ph.D., *Professor Emeritus of Psychology* (1948), 1921.

Louise Farrell Winterbottom, *Law Librarian; Managing Editor of West Virginia Law Review* (1946), 1924.

Albert Freddie Wojcik, B.S., *Assistant Professor of Pharmacy* (1949), 1946.

Joseph Francis Wolfe, *Flight Instructor, Aeronautical Engineering* (1958).

William W. Wolfe, *Supply Sergeant, Air Science* (1958).

Carolyn Adelle Wood, B.S., M.A., *Instructor in Home Economics* (1956). (Resigned June 1, 1958.)

Kenneth Wood, Mus.B., Mus.M., *Associate Professor of Music* (1957), 1928.

Yvonne Mildred Woofter, A.B., M.A., *Instructor in Education; Teacher of English, University High School* (1936).

Donald Thompson Worrell, B.S.E.E., M.S.E.E., *Professor of Mechanics; Engineer of Mechanics, Engineering Experiment Station* (1955), 1941.

Fred Earle Wright, II, B.S., M.A., *Assistant Professor of Finance* (1955), 1951.

James William Wright, A.B., B.D., A.M., *Associate Professor of Sociology, University Extension Service* (1947).

Margaret Ann Yarbrough, R.N., *Nurse, Infirmary* (1953).

Charles Peter Yost, B.S., M.S., Ph.D., *Assistant Professor of Physical Education; Supervisor, Safety Education* (1953). (On leave of absence, 1958-59.)

James Robert Young, B.A., M.A., *Assistant Professor of Journalism* (1954).

Stanley Arnold Zahler, A.B., M.S., Ph.D., *Assistant Professor of Microbiology* (1958).

Part IV

APPENDIX

THE CLASSIFIED ENROLLMENT

A. The Summer Session, 1958

Colleges and Schools	Senior			Junior			Sophomore			Freshman			Total			Special			Grand Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Agr., For., & Home Econ.	46	20	66	53	20	73	25	9	34	12	3	15	136	52	188	1	1	2	137	53	190
Arts and Sciences	108	49	157	114	46	160	174	81	255	81	36	117	477	212	689	47	26	73	524	238	762
Commerce	92	5	97	36	1	37							128	6	134	2	1	3	130	7	137
Education	23	69	92	4	21	25							27	90	117	5	4	9	32	94	126
Engineering	88		88	144	2	146	101		101	26	1	27	359	3	362	2		2	361	3	364
Graduate													678	401	1,079	125	109	234	803	510	1,313
Journalism	7		7	5	1	6							12	1	13				12	1	13
Mines	12		12	9		9	5		5	2		2	28		28				28		28
Music	7	8	15	6	5	11	3	4	7	2	5	7	18	22	40	1		1	19	22	41
Pharmacy	7		7	11	1	12	1	3	4				19	4	23				19	4	23
Phys. Ed. & Ath.	29	9	38	20	10	30	13	5	18	14		14	76	24	100		1	1	76	25	101
TOTAL	419	160	579	402	107	509	322	102	424	137	45	182	1,958	815	2,773	183	142	325	2,141	957	3,098
	4th Year			3rd Year			2nd Year			1st Year			Total			Special			Grand Total		
Dentistry										3		3	3		3				3		3
Law																					
Medicine		4	4											4	4					4	4
TOTAL		4	4							3		3	3	4	7				3	4	7
GRAND TOTAL	419	164	583	402	107	509	322	102	424	140	45	185	1,961	819	2,780	183	142	325	2,144	961	3,105

B. The First Semester (September to January), 1958-59

Colleges and Schools	Senior			Junior			Sophomore			Freshman			Total			Special			Grand Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Agr., For., & Home Econ.	124	41	165	105	52	157	90	33	123	95	48	143	414	174	588	1	5	6	415	179	594
Arts and Sciences	184	91	275	223	94	317	480	275	755	613	366	979	1,500	826	2,326	28	69	97	1,528	895	2,423
Commerce	145	13	158	95	12	107	.....	.....	.....	.....	.....	.....	240	25	265	5	4	9	245	29	274
Education	41	80	121	20	74	94	.....	.....	.....	.....	.....	.....	61	154	215	.....	3	3	61	157	218
Engineering	234	.....	234	303	3	306	307	2	309	304	2	306	1,148	7	1,155	7	.....	7	1,155	7	1,162
Graduate	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*531	167	*698	53	48	101	*584	215	*799
Journalism	15	5	20	11	6	17	.....	.....	.....	.....	.....	.....	26	11	37	1	.....	1	27	11	38
Mines	15	.....	15	16	.....	16	26	.....	26	11	.....	11	68	.....	68	2	.....	2	70	.....	70
Music	11	18	29	9	14	23	11	14	25	14	19	33	45	65	110	.....	1	1	45	66	111
Pharmacy	26	6	32	16	6	22	22	3	25	22	6	28	86	21	107	.....	.....	.....	86	21	107
Phys. Ed. & Ath.	52	21	73	49	23	72	71	14	85	63	31	94	235	89	324	.....	.....	.....	235	89	324
TOTAL	847	275	1,122	847	284	1,131	1,007	341	1,348	1,122	472	1,594	4,354	1,539	5,893	97	130	227	4,451	1,669	6,120
	4th Year			3rd Year			2nd Year			1st Year			Total			Special			Grand Total		
Dentistry	.....	.....	.....	.....	.....	.....	23	.....	23	33	.....	33	56	.....	56	.....	.....	.....	56	.....	56
Law	.....	.....	.....	39	1	40	33	.....	33	67	2	69	139	3	142	1	.....	1	140	3	143
Medicine	.....	.....	.....	.....	.....	.....	31	7	38	41	12	53	72	19	91	.....	.....	.....	72	19	91
TOTAL	.....	.....	.....	39	1	40	87	7	94	141	14	155	267	22	289	1	.....	1	268	22	290
GRAND TOTAL	847	275	1,122	886	285	1,171	1,094	348	1,442	1,263	486	1,749	4,621	1,561	6,182	98	130	228	4,719	1,691	6,410

*Includes 68 students in Kanawha Valley Center.

C. The Second Semester (February to June), 1958-59

Colleges and Schools	Senior			Junior			Sophomore			Freshman			Total			Special			Grand Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Agr., For., & Home Econ.	111	43	157	90	46	136	79	32	111	86	48	134	369	169	[1]538		1	1	369	170	539
Arts and Sciences	178	87	265	205	94	299	426	235	661	513	305	818	1,322	721	2,043	24	80	104	1,346	801	2,147
Commerce	148	13	161	101	17	118							249	30	279	1	1	2	250	31	281
Education	43	77	120	26	77	103							69	154	223		2	2	69	156	225
Engineering	232	1	233	290	1	291	237	2	239	260		260	1,019	4	1,023	2		2	1,021	4	1,025
Graduate													[1]519	181	[1]700	[2]67	61	[2]128	[3]586	242	[3]828
Journalism	16	5	21	15	6	21							31	11	42				31	11	42
Mines	13		13	18		18	18		18	9		9	58		58				58		58
Music	11	19	30	7	8	15	10	15	25	14	15	29	42	57	99		1	1	42	58	100
Pharmacy	26	6	32	16	6	22	24	3	27	16	6	22	82	21	103				82	21	103
Phys. Ed. & Ath.	54	22	76	50	21	71	63	13	76	61	21	82	228	77	305	1	1	2	229	78	307
TOTAL	835	273	1,108	818	276	1,094	857	300	1,157	959	395	1,354	3,988	1,425	5,413	95	147	242	4,083	1,572	5,655
	4th Year			3rd Year			2nd Year			1st Year			Total			Special			Grand Total		
Dentistry							23		23	32		32	55		55				55		55
Law				31	1	32	37		37	60	2	62	128	3	131				128	3	131
Medicine							31	7	38	35	11	46	66	18	84				66	18	84
TOTAL				31	1	32	91	7	98	127	13	140	249	21	270				249	21	270
GRAND TOTAL	835	273	1,108	849	277	1,126	948	307	1,255	1,086	408	1,494	4,237	1,446	5,683	95	147	242	4,332	1,593	5,925

[1]Includes 49 students in Kanawha Valley Center.
[2]Includes 7 students in Kanawha Valley Center.
[3]Includes 56 students in Kanawha Valley Center.

D. The Academic Year (September to June), 1958-59

Colleges and Schools	Senior			Junior			Sophomore			Freshman			Total			Special			Grand Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Agr., For., & Home Econ	146	47	193	92	50	142	95	35	130	104	49	153	437	181	618	.....	2	2	437	183	620
Arts and Sciences	202	96	298	227	104	331	493	273	766	612	364	976	1,534	837	2,371	45	129	174	1,579	966	2,545
Commerce	181	15	196	105	18	123	.....	.....	.....	.....	.....	.....	286	33	319	4	4	8	290	37	327
Education	49	91	140	27	82	109	.....	.....	.....	.....	.....	.....	76	173	249	.....	3	3	76	176	252
Engineering	276	1	277	312	1	313	274	2	276	289	.....	289	1,151	4	1,155	9	.....	9	1,160	4	1,164
Graduate	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[1]660	220	[1]880	[2]92	82	[2]174	[2]752	302	[3]1,054
Journalism	18	5	23	15	6	21	.....	.....	.....	.....	.....	.....	33	11	44	.....	.....	.....	33	11	44
Mines	18	.....	18	19	.....	19	21	.....	21	10	.....	10	68	.....	68	.....	.....	.....	68	.....	68
Music	12	19	31	7	9	16	11	16	27	15	17	32	45	61	106	.....	1	1	45	62	107
Pharmacy	27	6	33	17	6	23	25	3	28	16	6	22	85	21	106	.....	.....	.....	85	21	106
Phys. Ed. & Ath	59	24	83	55	22	77	85	17	102	73	26	99	272	89	361	1	1	2	273	90	363
TOTAL	988	304	1,292	876	298	1,174	1,004	346	1,350	1,119	462	1,581	4,647	1,630	6,277	151	222	373	4,798	1,852	6,650
	4th Year			3rd Year			2nd Year			1st Year			Total			Special			Grand Total		
Dentistry	.....	.....	.....	.....	.....	.....	23	.....	23	33	.....	33	56	.....	56	.....	.....	.....	56	.....	56
Law	.....	.....	.....	37	1	38	38	.....	38	70	2	72	145	3	148	.....	.....	.....	145	3	148
Medicine	.....	.....	.....	.....	.....	.....	31	7	38	36	12	48	67	19	86	.....	.....	.....	67	19	86
TOTAL	.....	.....	.....	37	1	38	92	7	99	139	14	153	268	22	290	.....	.....	.....	268	22	290
GRAND TOTAL	988	304	1,292	913	299	1,212	1,096	353	1,449	1,258	476	1,734	4,915	1,652	6,567	151	222	373	5,066	1,874	6,940

[1]Includes 76 students in Kanawha Valley Center.
[2]Includes 7 students in Kanawha Valley Center.
[3]Includes 83 students in Kanawha Valley Center.

E. The Summary for 1958-59

Colleges and Schools	Senior			Junior			Sophomore			Freshman			Total			Special			Grand Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Agr., For., & Home Econ.	154	49	203	95	53	148	96	36	132	107	49	156	452	187	639	1	3	4	453	190	643
Arts and Sciences	226	106	332	237	114	351	513	289	802	624	369	993	1,600	878	2,478	89	151	240	1,689	1,029	2,718
Commerce	212	16	228	107	18	125	.....	.....	.....	.....	.....	.....	319	34	353	6	4	10	325	38	363
Education	54	118	172	27	88	115	.....	.....	.....	.....	.....	.....	81	206	287	5	7	12	86	213	299
Engineering	300	1	301	316	1	317	277	2	279	292	1	293	1,185	5	1,190	11	.....	11	1,196	5	1,201
Graduate	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[1]1,136	538	[1]1,674	[2]203	177	[3]380	[3]1,339	715	[2]2,054
Journalism	20	5	25	15	6	21	.....	.....	.....	.....	.....	.....	35	11	46	.....	.....	.....	35	11	46
Mines	21	.....	21	20	.....	20	22	.....	22	10	.....	10	73	.....	73	.....	.....	.....	73	.....	73
Music	13	20	33	7	9	16	11	16	27	15	19	34	46	64	110	1	1	2	47	65	112
Pharmacy	31	6	37	18	6	24	25	3	28	16	6	22	90	21	111	.....	.....	.....	90	21	111
Phys. Ed. & Ath.	62	26	88	57	23	80	85	17	102	73	26	99	277	92	369	1	2	3	278	94	372
TOTAL	1,093	347	1,440	899	318	1,217	1,029	363	1,392	1,137	470	1,607	5,294	2,036	7,330	317	345	662	5,611	2,381	7,992
	4th Year			3rd Year			2nd Year			1st Year			Total			Special			Grand Total		
Dentistry	.....	.....	.....	.....	.....	.....	23	.....	23	34	.....	34	57	.....	57	.....	.....	.....	57	.....	57
Law	.....	.....	.....	37	1	38	38	.....	38	70	2	72	145	3	148	.....	.....	.....	145	3	148
Medicine	.....	.....	.....	.....	.....	.....	31	7	38	36	12	48	67	19	86	.....	.....	.....	67	19	86
TOTAL	.....	.....	.....	37	1	38	92	7	99	140	14	154	269	22	291	.....	.....	.....	269	22	291
GRAND TOTAL	1,093	347	1,440	936	319	1,255	1,121	370	1,491	1,277	484	1,761	5,563	2,058	7,621	317	345	662	5,880	2,403	8,283

[1]Includes 76 students in Kanawha Valley Center.
[2]Includes 7 students in Kanawha Valley Center.
[3]Includes 83 students in Kanawha Valley Center.

	M	W	T
UNIVERSITY EXTENSION OF COLLEGIATE GRADE:			
University Extension of Collegiate Grade (Not counted elsewhere)	463	828	*1,291
University Resident Enrollment	5,880	2,403	8,283
Total University Enrollment of Collegiate Grade	6,343	3,231	9,574
*This number represents those persons enrolled only in extension courses of collegiate grade.			
CONFERENCES:			
Curriculum Development Conference			96
Labor Relations Conference			75
Total			171
EXTENSION: (Non Collegiate Grade)			
A. C. Electricity, first year			92
Coal Mining Night Classes			63
Coal Mining Short Course, first year			320
Coal Preparation Short Course			67
Dairy Short Course			267
D. C. Electricity, first year			363
D. C. Mining Equipment, second year			71
D. C. Mining Equipment, third year			16
Feed Dealers Short Course			75
Fire Service			618
Hydraulics, first year			8
Hydraulics, second year			10
Maintenance Program			35
Mathematics			29
Mathematics and Science			71
Mine Equipment and Maintenance Short Course			97
Miners Encampment			48
Oil and Gas			37
Technical Institute Program			88
Total			2,375
SHORT COURSES AT MORGANTOWN:			
Appalachian Gas Measurement Short Course			711
Appalachian Underground Corrosion Short Course			448
Coal Mining Short Course			12
Coal Preparation Short Course			11
Fire School			203
Home Economics Staff Workshop			10
Ornamental Horticulture Workshop			18
Total			1,413
GRAND TOTAL			13,533

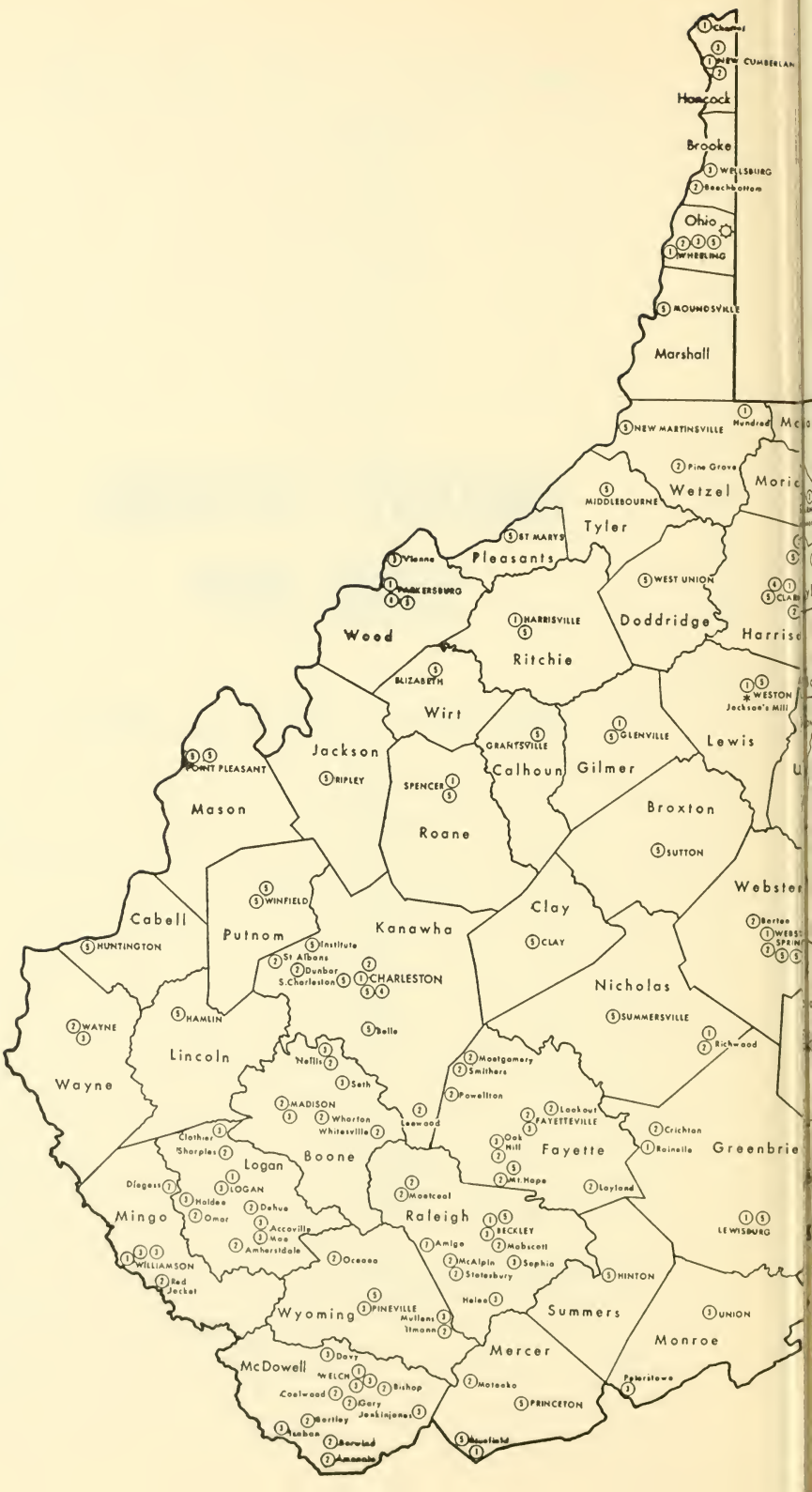
Resident Enrollment, 1958-59, by West Virginia Counties

Barbour	65	Mingo	45
Berkeley	65	Monongalia	1,725
Boone	39	Monroe	29
Braxton	38	Morgan	18
Brooke	91	Nicholas	74
Cabell	62	Ohio	209
Calhoun	32	Pendleton	31
Clay	20	Pleasants	16
Doddridge	22	Pocahontas	57
Fayette	141	Preston	224
Gilmer	29	Putnam	16
Grant	49	Raleigh	208
Greenbrier	114	Randolph	117
Hampshire	43	Ritchie	37
Hancock	206	Roane	38
Hardy	43	Summers	35
Harrison	526	Taylor	87
Jackson	42	Tucker	56
Jefferson	31	Tyler	32
Kanawha	713	Upshur	60
Lewis	64	Wayne	19
Lincoln	8	Webster	36
Logan	80	Wetzel	78
Marion	440	Wirt	8
Marshall	119	Wood	252
Mason	34	Wyoming	56
McDowell	122		
Mercer	124		
Mineral	99	Total	7,023

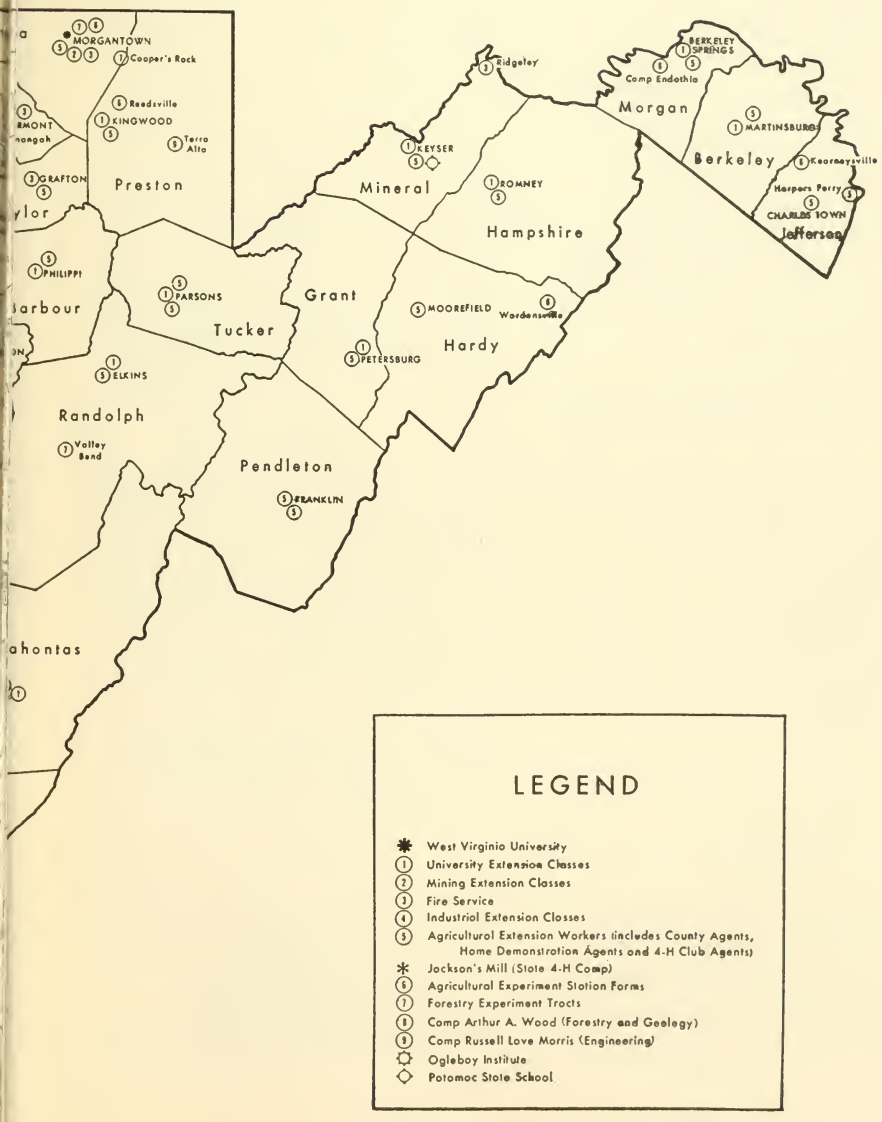
By States, U. S. Possessions and Foreign Countries

Alabama	2	Bolivia	1
Arizona	1	Canada	3
Colorado	1	China	9
Connecticut	2	Colombia	1
Delaware	2	Costa Rica	1
District of Columbia	9	Cuba	3
Florida	20	Czechoslovakia	1
Idaho	1	Denmark	1
Illinois	3	Ecuador	1
Indiana	1	France	1
Kansas	2	Germany	1
Kentucky	4	Greece	1
Louisiana	1	Hungary	1
Maine	1	India	6
Maryland	114	Indonesia	6
Massachusetts	6	Iran	5
Michigan	3	Iraq	2
Mississippi	3	Korea	3
Nebraska	1	Latvia	1
New Hampshire	1	Lebanon	1
New Jersey	51	Philippines	2
New Mexico	1	Switzerland	2
New York	50	Turkey	8
North Carolina	3		
Ohio	67	Total	61
Oklahoma	1	Total University Enrollment 1958-59	8,283
Pennsylvania	798		
South Carolina	2		
Tennessse	1		
Virginia	46		
West Virginia	7,023		
Wisconsin	1		
Total	8,222		

UNIVERSITY EXTENSION SERVICE MAP


Hancock
Brooke
Ohio
Marshall
Wetzel
Tyler
Pleasants
Wood
Ritchie
Doddridge
Harrison
Wirt
Jackson
Calhoun
Gilmer
Lewis
Mason
Roane
Broxton
Webster
Cabell
Putnam
Kanawha
Clay
Nicholas
Wayne
Lincoln
Boone
Fayette
Greenbrier
Logan
Mingo
Raleigh
Wyoming
Summers
Monroe
McDowell
Mercer
MARTINSBURG
PARKERSBURG
WHEELING
MOUNDSVILLE
NEW MARTINSVILLE
MIDDLEBOURNE
ST MARYS
WEST UNION
HARRISVILLE
BLIZABETH
WESTON
GLENVILLE
GRANTSVILLE
SPENCER
POINT PLEASANT
RIPLEY
SUTTON
WINFIELD
HUNTINGTON
CHARLESTON
CLAY
SUMMERSVILLE
HAMLIN
MADISON
OAK HILL
FAYETTEVILLE
MT. HOPE
BECKLEY
HINTON
LEWISBURG
LOGAN
WILLIAMSON
PINEVILLE
UNION
WELCH
PRINCETON

WHERE
WEST VIRGINIA UNIVERSITY
SERVES THE STATE



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UNIVERSITY CALENDARS

UNIVERSITY CALENDAR

1959

May 30, Saturday ..... Alumni Day
May 31, Sunday ..... Baccalaureate Exercises
June 1, Monday ..... Commencement
June 8, Monday ..... Registration for First Term, Summer Session
June 9, Tuesday ..... First Classes, First Term, Summer Session
July 4, Saturday ..... Independence Day, a holiday
July 17, Friday ..... Close of First Term, Summer Session
July 20, Monday ..... Registration for Second Term, Summer Session*
July 21, Tuesday ..... First Classes, Second Term, Summer Session
August 26, Wednesday ..... Close of Second Term, Summer Session
September 9, Wednesday, to September 15, Tuesday, inclusive. Freshman Week Program
September 14, Monday, and September 15, Tuesday
General Registration for First Semester
September 16, Wednesday ..... First Classes, First Semester
October 8, Thursday ..... English Proficiency Examination
October 13, Tuesday ..... Meeting of the University Senate
November 2, Monday ..... Mid-semester Reports Due
November 25, Wednesday, to November 29, Sunday, inclusive .. Thanksgiving Recess
December 19, noon Saturday, to January 3, Sunday, inclusive ..... Christmas Recess

1960

January 16, Saturday ..... Last Classes, First Semester
January 18, Monday, to January 23, Saturday, inclusive
Final Examinations for First Semester
January 29, Friday, and January 30, Saturday
General Registration for Second Semester
February 1, Monday ..... First Classes, Second Semester
February 7, Sunday ..... West Virginia University Day
February 9, Tuesday ..... Meeting of the University Senate
February 25, Thursday ..... English Proficiency Examination
March 21, Monday ..... Mid-semester Reports Due
April 14, Thursday, to April 20, Wednesday, inclusive ..... Easter Recess
May 10, Tuesday ..... Meeting of the University Senate
May 21, Saturday ..... Last Classes, Second Semester
May 23, Monday, to May 28, Saturday, inclusive
Final Examinations for Second Semester
May 28, Saturday ..... Alumni Day
May 29, Sunday ..... Baccalaureate Exercises
May 30, Monday ..... Commencement

*Classes will be held on August 1 and August 15.